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Sediment Data

Saskatchewan

Données sur les sédiments

1990

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WATER RESOURCES BRANCH
WATER SURVEY OF CANADA
OTTAWA, CANADA, 1992

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PREFACE

This publication was prepared by personnel of the Sediment Survey Section, Water Survey of Canada Division, under the direction of the Director, Water Resources Branch, Department of the Environment, Ottawa.

The basic data were collected and compiled under the supervision of the Regional Chief of the Water Resources Branch at Regina, Saskatchewan.

The co-operation received from provincial agencies and from other organizations is gratefully acknowledged.

PRÉFACE

Le groupe d'étude des sédiments de la Division des relevés hydrologiques du Canada, sous l'autorité du directeur des Ressources en eau du ministère de l'Environnement, à Ottawa, a préparé la présente publication.

Le chef régional de la Direction des ressources en eau, à Regina (Saskatchewan), a supervisé la collecte et la compilation des données de base.

Nous remercions vivement les organismes provinciaux, ou autres, pour leur collaboration.

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INTRODUCTION

The Water Resources Branch of the Department of the Environment herein presents for the 1990 calendar year the annual suspended sediment data and a historical data summary for the sediment survey investigations conducted in Saskatchewan by the Water Survey of Canada.

Data on the character and quantity of fluvial sediments provided by sediment survey investigations are intended for use in studies of water quality, environmental impacts, river processes and behaviour, and engineering design.

General introductory information on the sediment survey is included in this publication. Similar information for the associated hydrometric survey is given in the regular publications containing surface water data.

Details on individual stations and related records, as well as recent data that have not yet been published, may be obtained upon application to:

Regional Chief,
Water Resources Branch,
Department of the Environment,
G.M.C. Building,
1102-8th Avenue,
Regina, Saskatchewan.
S4R 1C9
(306 780-5338)

or to the Director, Surveys and Information Systems Branch, Department of the Environment, Ottawa, Ontario, K1A 0H3 (819 997-2098).

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INTRODUCTION

Dans la présente publication de la Direction des ressources en eau du ministère de l'Environnement, on trouvera les données annuelles sur les sédiments en suspension pour 1990 et le sommaire des données chronologiques sur les sédiments, à la suite des études effectuées dans les cours d'eau de la Saskatchewan par la Division des relevés hydrologiques du Canada.

Les données recueillies sur la nature et l'importance de la charge solide dans les cours d'eau doivent servir aux études portant sur la qualité des eaux, les incidences environnementales, les processus fluviaux, le comportement des cours d'eau et la conception de projets.

La presente publication contient des renseignements généraux préliminaires sur les études des sédiments. Des renseignements semblables sur les études hydrométriques connexes sont contenus dans les publications régulières présentant des données sur les eaux de surface.

On peut obtenir des renseignements supplémentaires sur les stations et les relevés, ainsi que des données récentes non encore publiées, en s'adressant au:

Chef régional
Direction des ressources en eau
Ministère de l'Environnement
Édifice G.M.C.
1102, Huitième avenue
Regina (Saskatchewan)
S4R 1C9
(306 780-5338)

ou au Directeur, Relevés et systemes d'information, ministère de l'Environnement, Ottawa (Ontario), K1A 0H3 (819 997-2098).

SCOPE OF PUBLICATION

Descriptive information about sediment stations is given. This refers to the Location, Latitude and Longitude, Drainage Area and whether the flow is Natural Flow or Regulated Flow (the year that regulation began is given, if known), Type of Gauge and the Total Suspended Sediment Load in Tonnes for the Period of Record is also included. International Gauging Stations are identified and the names of co-operating agencies who supply data are given; unusual conditions at the sediment station that could affect the data results are explained under "Remarks".

This publication contains data on streamflow, instantaneous suspended sediment concentration; daily mean suspended sediment concentration; daily suspended sediment loads; dissolved solids concentration; load summary; particle-size distribution of suspended sediment in percent sand, silt and clay; bed load and bed material; water temperature when samples were collected; type of sampler and the single sampling vertical location.

A historical sediment data summary includes such information as Sampled Concentration Maximum and Minimum; Suspended Sediment Load Maximum Daily and the Total for Period. The Period of Record and the Type of Operation for each year of data are also given. A Summary for the Months of record gives the Period of Record Mean, the Mean for Period of Record and the Standard Error of Mean as a percent.

HISTORY AND OBJECTIVES OF SEDIMENT SURVEYS IN CANADA

In Canada, investigations of sediment transported by streams were first undertaken by individual organizations or agencies in 1948, to meet the needs of federal and provincial agencies for assessment of particular projects. Although the investigations were extended to meet expanding needs after 1948, it was not until 1961 that a systematic survey was undertaken by the Water Resources Branch.

The sediment survey program has the following objectives:

(1) Collection and provision of data related to sediment transport in Canadian rivers for applications in water resource engineering, water quality and environmental studies.

(2) Provision of information and advice related to sediment transport.

(3) Assessment, improvement and standardization of equipment and techniques used in Canada's sediment survey program.

PUBLICATION OF SEDIMENT DATA

Sediment data have been published in a variety of formats since the beginning of the Sediment Survey Program.

PORTÉE DE LA PUBLICATION

Des données descriptives sont présentées sur les stations d'étude des sédiments. Elles concernent leur emplacement, leurs latitude et longitude, leur bassin versant, la nature de débit (naturel ou régularisé, avec indication, le cas échéant, de l'année où la régularisation a commencé, si elle est connue), le type d'instrument de mesure employé et le débit total des sédiments en suspension (en tonnes) pour la période de relevé. Les stations internationales de jaugeage sont indiquées, ainsi que le nom des organismes qui fournissent les données. Des explications concernant des conditions exceptionnelles qui ont pu influer sur les résultats sont présentées dans la partie «Remarques».

Cette publication renferme des données sur le débit des cours d'eau, les concentrations instantanées de sédiments en suspension, les concentrations journalières moyennes de sédiments en suspension, les débits journaliers de sédiments en suspension, les concentrations de matières dissoutes, les débits solides totaux (résumés), la granulométrie des sédiments en suspension exprimée en pourcentage de sable, de limon et d'argile, le charriage et les matériaux du lit, la température de l'eau au moment de l'échantillonnage, le type d'échantillonneur employé et l'emplacement des verticales de prélèvement d'échantillons uniques.

Un résumé des données historiques sur les sédiments est inclus. On y trouve divers renseignements comme les concentrations maximale et minimale mesurées, le débit journalier maximal des sédiments en suspension et le total pour la période. La période de relevé et le type d'exploitation des stations sont indiqués pour chaque année. Dans un résumé pour les mois de relevé, on donne la moyenne pour chaque période et pour l'ensemble des périodes de relevé ainsi que l'erreur-type de la moyenne, en pourcentage.

HISTORIQUE ET OBJECTIFS DES ÉTUDES DES SÉDIMENTS AU CANADA

Au Canada, les études dans ce domaine ont débuté en 1948 en réponse aux besoins exprimés par certains organismes fédéraux et provinciaux pour l'évaluation de projets donnés et étaient le fait d'organismes privés. Bien que les études se soient poursuivies après 1948 pour satisfaire aux besoins accrus, ce n'est qu'en 1961 que la Direction des ressources en eau les a entreprises de façon systématique.

Les buts de ces études sont de:

(1) réunir et produire des données sur les transports solides dans les cours d'eau canadiens, données dont on peut avoir besoin pour des études concernant l'environnement, la qualité des eaux et la conception de projets portant sur les ressources en eau.

(2) produire des informations concernant les transports solides.

(3) évaluer, améliorer et uniformiser le matériel et les techniques employés dans le programme d'étude des sédiments au Canada.

PUBLICATION DES DONNÉES SUR LES SÉDIMENTS

Depuis le début du programme d'étude des sédiments, la présentation des données a varié.

During the years 1948 to 1960, some sediment data were collected for several Prairie rivers to meet the needs of particular projects. The first Water Resources Paper series containing sediment data incorporated a selection of these data and also data for part of the year ending September 30, 1961, at stations established for the continuing program. The second issue was a biennial publication covering only the continuing program for the 1962 and 1963 water years. All subsequent editions titled *Sediment Data Canadian Rivers* have been published annually. The sediment data since 1978 have been presented entirely in the International System of Units (SI).

Commencing with 1984, the *Sediment Data* were published in a new format wherein Canada was divided into eight regions. The provinces each represent a separate region except for New Brunswick, Newfoundland, Nova Scotia and Prince Edward Island, which together form the Atlantic Provinces region, and the Yukon and Northwest Territories which make up another. The publications are identified by the province or territories covered and the year in which the data were collected. These data are published annually on a calendar-year basis and the stations are listed alphabetically.

A new edition, *Miscellaneous Sediment Data 1966 to 1983*, was published. It contains a tabulation of locations in Canada where miscellaneous data were collected but not previously published by the Water Survey of Canada. The following data are included in this one time publication: date and time of sample collection; instantaneous discharge or daily mean discharge; sampling vertical; instantaneous concentration; dissolved solids for some samples; type of sampler used; particle size distribution of suspended sediment in percent sand, silt and clay for some depth integrated samples and/or measurements, and some point integrated measurements; particle size distribution of bed load; particle size distribution of bed material; and the water temperature at time of sampling for some samples is also given where available.

The first edition of a *Sediment Data Reference Index* was published for data to 1972. It contains a tabulation of locations in Canada where sediment data were collected by the Water Survey of Canada. The index has been subdivided alphabetically by province or territory, with sediment survey stations also listed alphabetically. Commencing with the 1978 publication, data are presented in the International System of Units (SI) and will continue to be published biennially. The latest edition supersedes all previous editions because it contains any corrections or additions since the last publication.

The first edition of a new publication series titled *Historical Sediment Data Summary for Canadian Rivers* was produced for data to 1974. This publication contains a summary of historical monthly and annual mean suspended sediment load, and annual extremes of daily suspended sediment concentration and loads and total annual suspended load. Commencing with the 1978 publication, data are presented entirely in the International System of Units (SI). This publication has been discontinued, as much of the information is now included in the new annual *Sediment Data* publication.

De 1948 à 1960, on a recueilli des données pour plusieurs cours d'eau des Prairies en prévision de la réalisation de certains projets. La première publication contenant des données sur les sédiments a paru dans la série intitulée *Water Resources Paper*; elle présentait un choix de ces données ainsi que des données recueillies en 1961 avant le 30 septembre à des stations établies pour la réalisation du programme permanent. La deuxième publication a porté sur les données recueillies dans le cadre du programme au cours des années hydrologiques 1962 et 1963. Par la suite, les données ont été publiées annuellement sous le titre *Données sur les sédiments - rivières canadiennes*. Depuis 1978, les données sont exprimées en unités du Système international (SI).

En 1984, la présentation des *Données sur les sédiments* a été modifiée. Le Canada a été divisé en huit régions, une région pour chaque province, sauf le Nouveau-Brunswick, Terre-Neuve, la Nouvelle-Écosse et l'Île-du-Prince-Édouard qui, ensemble, forment la région des provinces de l'Atlantique, et les Territoires du Yukon et du Nord-Ouest, qui forment une autre région. Les publications sont nommées selon la région couverte et l'année des données (année civile). Ces publications sont annuelles. Les stations y sont présentées par ordre alphabétique.

Une édition récente intitulée *Données diverses sur les sédiments, 1966 à 1983* vient de paraître. On y présente sous forme de tableau les emplacements où des données diverses non encore publiées ont été recueillies au Canada par la Division des relevés hydrologiques. Cette première édition comprend des données telles que : la date et la durée de l'échantillonnage; le débit instantané ou débit journalier moyen; la verticale d'échantillonnage; les concentrations instantanées; les concentrations de matières solides en solution pour certains échantillons; le type d'échantillonneur employé; la granulométrie des sédiments en suspension en pourcentage de sable, de limon et d'argile, dans le cas de mesures avec intégration selon la profondeur ou d'échantillons intégrés sur toute la profondeur, et dans le cas de mesures par la méthode ponctuelle; la granulométrie du charriage; la granulométrie des matériaux du lit; la température de l'eau lors du prélèvement d'échantillons, lorsque celle-ci est connue.

Un *Index de référence des données sur les sédiments* est publié. La première édition portait sur les données disponibles jusqu'en 1972. Les emplacements où des données sur les sédiments ont été recueillies au Canada par la Division des relevés hydrologiques y sont présentés sous forme de tableau. L'*Index* est subdivisé selon l'ordre alphabétique par province ou territoire, et les stations de mesure des sédiments sont classées par ordre alphabétique. À partir de 1978, les données sont exprimées en unités du Système international (SI). L'*Index* est publié tous les deux ans; l'édition la plus récente annule toutes les éditions antérieures, car elle renferme toutes les corrections et mises à jour effectuées depuis la dernière parution.

Une autre série de publications a porté le titre *Sommaire chronologique des données sur les sédiments de rivières canadiennes*. La première édition renfermait les données disponibles jusqu'en 1974. Cette série présentait un résumé donnant les moyennes mensuelles et annuelles historiques du débit des sédiments en suspension, les valeurs annuelles extrêmes de la concentration journalière et du débit journalier des sédiments en suspension et le débit annuel total des sédiments en suspension. À partir de 1978, les données ont été présentées en unités du Système international (SI). Cette série a été abandonnée, car une bonne partie de l'information est maintenant contenue dans la nouvelle publication annuelle intitulée *Données sur les sédiments*.

COLLECTION AND PROCESSING OF BASIC DATA

1. *Equipment and Instrumentation*

The sediment survey program of the Water Resources Branch is conducted in cross sections on rivers selected specifically for the sediment survey or for the hydrometric survey. Certain cross sections are located at traffic bridges, while others are equipped with cableways, or automatic pump samplers.

The following sediment samplers have been used in the sediment survey program:

(a) Depth-integrating suspended sediment wading-type hand sampler, USDH-48, used on small streams or during winter periods.

(b) Depth-integrating suspended sediment sampler, USDH-59, used as a handline suspension for small and medium size streams.

(c) Depth-integrating suspended sediment samplers, USD-49, and USD-74, used on a reel suspension for medium and large streams whose depths are less than five metres.

(d) Point-integrating suspended sediment samplers, USP-61, USP-61-A1, USP-63, and USP-72, used for point-integrating sampling, or depth-integrating sampling if the depth is over five metres, or in a cross section with velocities up to two metres per second.

(e) Automatic pump sampler is an automatic pumping system permitting unattended collecting and bottling of individual water samples pumped from a fixed point in a stream. This sampler is normally installed at isolated locations where otherwise no data would be available during ice break-up or peak periods.

(f) Bed material sampler, USBM-54, used on large or deep streams or on those streams with hard-packed streambeds.

(g) Bed material sampler, USBMH-60, used on some large or deep streams or on those streams with soft-packed streambeds.

(h) Bed material sampler, USBMH-53, used on some small or shallow streams.

(i) Lane bed material sampler, a drag-type sampler used on small streams or those with soft streambeds.

2. *Hydrometric Surveys*

The hydrometric survey includes the standard procedures for observations of water levels, streamflow measurements, water surface slope determinations if required, and observations of water temperature. The streamflow measurements are made in conjunction with the sediment load measurements and conform to the accepted standards of the regular hydrometric survey.

3. *Sediment Sampling Program*

The following is a summary of the elements associated with the Sediment Sampling Program:

(a) Periodic measurement of suspended sediment load by the

COLLECTE ET TRAITEMENT DES DONNÉES DE BASE

1. *Matériel*

L'étude des sédiments réalisée par la Direction des ressources en eau porte sur des sections transversales de cours d'eau choisis spécialement à cette fin ou pour les relevés hydrométriques. Certaines sections sont situées sous un pont, d'autres sont accessibles par téléphérique, ou sont étudiées à l'aide d'un échantillonneur sous pression.

On a utilisé les échantillonneurs suivants:

(a) L'échantillonneur intégrateur selon la profondeur, type simple, USDH-48, employé dans les cours d'eau peu profonds ou en hiver;

(b) L'échantillonneur intégrateur selon la profondeur USDH-59, utilisé comme une ligne dans les cours d'eau petits et moyens;

(c) Les échantillonneurs intégrateurs selon la profondeur USD-49 et USD-74 fixés au bout d'une corde s'enroulant autour d'un moulinet et employés dans les cours d'eau gros ou moyens dont la profondeur est inférieure à cinq mètres;

(d) Les échantillonneurs intégrateurs USP-61, USP-61-A1, USP-63 et USP-72, employés ponctuellement ou sur toute la verticale, et utilisés lorsque la profondeur est supérieure à cinq mètres ou dans les sections transversales qui connaissent un débit qui atteint 2 m/s.

(e) Un échantillonneur automatique permettant le prélèvement en bouteilles, sans surveillance, d'échantillons uniques d'eau obtenus à l'aide d'une pompe en un point précis d'un cours d'eau; il est ordinairement installé dans un endroit isolé où aucune donnée ne pourrait être obtenue autrement au cours de la débâcle ou des périodes de débit de pointe;

(f) L'échantillonneur USBM-54 employé pour le prélèvement d'échantillons des matériaux du lit dans les cours d'eau importants ou profonds ou dans les cours d'eau dont le fond est dur;

(g) L'échantillonneur USBMH-60 employé pour le prélèvement d'échantillons des matériaux du lit dans certains cours d'eau importants ou profonds, ou dans les cours d'eau dont le fond est meuble;

(h) L'échantillonneur USBMH-53 employé pour le prélèvement d'échantillons des matériaux du lit dans certains cours d'eau petits ou peu profonds;

(i) La drague employée pour le prélèvement d'échantillons des matériaux du lit dans de petits cours d'eau ou dans des cours d'eau dont le fond est meuble.

2. *Relevés hydrométriques*

Le relevé hydrométrique comprend, entre autres, l'observation de la hauteur des eaux, la mesure du débit de l'eau, la détermination de la pente de la ligne d'eau, si nécessaire, ainsi que l'observation de la température de l'eau. Les mesures du débit de l'eau et du débit des sédiments se font conjointement, suivant les méthodes acceptées.

3. *Échantillonnage des sédiments des cours d'eau*

L'échantillonnage comporte, en gros, les éléments suivants:

(a) La mesure périodique du débit des sédiments en suspension par la méthode d'intégration sur toute la profondeur

depth-integrating method for determining the average suspended sediment concentration in the cross section.

(b) Single suspended sediment samples at a selected vertical for determining the sediment concentration for the days when suspended sediment load measurements are not taken.
(c) Limited measurement of suspended sediment load by the point-integrating method for checking depth-integrated measurements and for determining particle-size distribution in the cross section.
(d) Sampling of bed material for determining particle-size distribution.
(e) Periodic measurement of bed load.

The following is a brief explanation of the elements listed above:

(a) *Suspended Sediment Load by Depth-Integrating Method*: Measurements are made by the depth-integrating method to determine the suspended sediment load in the entire cross section of a stream, the average suspended sediment concentration in the cross section, and the size distribution of the sediment particles. It is known that the concentration of suspended sediment tends to increase from the water surface to the streambed and could vary from streambank to streambank.

When making suspended sediment equal-discharge-increment (EDI) measurements, the stream cross section is divided into at least five equal-flow panels and a representative suspended sediment sample is collected from each portion. For each panel of the cross section, the suspended sediment load (r) may then be computed by multiplying the flow (q) by the suspended sediment concentration (c):

$$r = q\ c$$

The suspended sediment load (R) for the cross section may be computed by adding the sediment loads for the five equal-flow panels:

$$R = r\ n = q_1c_1 + q_2c_2 + \ldots + q_nc_n$$

The depth-integrating method of sampling is used to measure the suspended sediment concentration. This method is based on the premise that the sampler fills at a rate proportional to the velocity of the approaching flow, and that by traversing the depth of a stream at a uniform speed, the sampler will receive a portion of water sediment mixture at every point in the vertical.

(b) *Single Suspended Sediment Samples at a Selected Vertical*: Single suspended sediment samples, consisting of two bottles each, are collected routinely using the depth or point-integrating samplers at a permanently fixed vertical in a cross section. During periods of very heavy sediment concentration, two or three single sediment samples may be taken per day, while during periods of low concentration, one single sediment sample may only be taken every few days. During extremely low flow periods, the sampling may be limited to one single sample in several weeks or months.

(c) *Suspended Sediment Load by Point-Integrating Method*: A limited number of suspended sediment load measurements are made by the point-integrating method. These measurements are included in the program (a) to check by comparison the "measured" sediment loads obtained by the depth-integrating method with the suspended sediment loads by the point-integrating method and (b) to obtain samples from which to determine particle-size distribution

pour la détermination de la concentration moyenne dans une section transversale;
(b) Le prélèvement d'échantillons uniques des sédiments en suspension selon une verticale choisie, afin de déterminer la concentration des sédiments les journées où le débit des sédiments en suspension n'est pas mesuré;
(c) Un nombre restreint de mesures du débit des sédiments en suspension avec intégration en un point précis d'un cours d'eau, afin de vérifier les résultats des mesures avec intégration selon la profondeur et afin de déterminer la granulométrie des particules de sédiments dans une section transversale d'un cours d'eau;
(d) L'échantillonnage des matériaux du lit afin d'en déterminer la granulométrie;
(e) La mesure périodique du charriage.

Voici une brève description des éléments susmentionnés.

(a) *Mesure du débit des sédiments en suspension par intégration selon la profondeur*: La méthode permet de déterminer le débit des sédiments en suspension traversant toute une section transversale d'un cours d'eau, la concentration moyenne des sédiments en suspension dans la section transversale et la granulométrie des sédiments en suspension. C'est un fait connu que la concentration des sédiments en suspension augmente généralement avec la profondeur et qu'elle peut varier d'une rive à l'autre d'un cours d'eau.

Avec la méthode d'incréments de débits égaux (IDE), la mesure du débit des sédiments en suspension se fait en divisant une section transversale d'un cours d'eau en au moins cinq tranches où le débit est égal et en prélevant un échantillon représentatif dans chacune d'elles. Le débit des sédiments en suspension (r) pour chaque tranche se calcule en multipliant le débit (q) par la concentration des sédiments en suspension (c):

$$r = q\ c$$

Le débit des sédiments en suspension (R) pour la section transversale est la somme des débits des sédiments des cinq tranches:

$$R = r\ n = q_1c_1 + q_2c_2 + \ldots + q_nc_n$$

La méthode par intégration sur toute la profondeur est employée pour mesurer la concentration des sédiments en suspension. Elle suppose que l'échantillonneur se remplit à un rythme proportionnel au débit de l'eau et qu'en étant déplacé à une vitesse uniforme sur toute la verticale, il reçoit une partie du mélange eau-sédiments à tous les points de celle-ci.

(b) *Prélèvement d'échantillons uniques de sédiments en suspension sur une verticale choisie*: De tels échantillons, constitués chacun de deux bouteilles, sont prélevés régulièrement à l'aide d'appareils intégrateurs, selon la profondeur ou ponctuels, sur une verticale permanente d'une section transversale. Lorsque la concentration des sédiments est très forte, deux ou trois échantillonnages peuvent être effectués chaque jour, alors qu'un seul échantillon peut être prélevé à quelques jours d'intervalle lorsqu'elle est faible. Au cours des périodes où le débit est extrêmement faible, l'échantillonnage peut être limité à un échantillon toutes les quelques semaine ou tous les quelques mois.

(c) *Mesure du débit des sédiments en suspension par la méthode ponctuelle*: Un nombre limité de mesures du débit des sédiments en suspension sont faites avec cette méthode. On y a recours a) pour vérifier les valeurs du débit mesurées au moyen de la méthode précédente et b) pour obtenir des échantillons en vue de déterminer la granulométrie des sédiments en divers points de la

at different points in the cross section. The point-integrating sediment loads are computed by graphical methods.

The relationship between the suspended sediment concentration of the single vertical samples and the average concentration in the cross section determined from the suspended sediment load measurements is established for some stations. Using this relationship, the sediment concentrations of the single vertical samples are adjusted to reflect the average suspended sediment concentration in the cross section. These average sediment concentrations in the cross sections are plotted, and a smooth curve is drawn through the points to obtain a concentration graph. This graph represents the average suspended sediment concentration for the period of record. The daily mean concentrations are determined by automated procedures using a digitizer interfaced with a Digital minicomputer.

The daily suspended sediment loads are computed on the basis of stream discharges and the collected suspended sediment concentrations. The daily suspended sediment loads are expressed in tonnes per day and are obtained by multiplying the daily mean sediment concentration (mg/L), by the daily mean discharge (m^3/s), and the conversion factor, 0.0864.

(d) *Bed Material Sampling*: In a cross section, bed material samples are usually taken in the same sampling verticals as the suspended sediment samples. Often, additional bed material samples are collected at the water edge, the extreme water level or at other points in the cross section. The total number of bed material samples taken in a cross section usually varies between five and nine.

(e) *Bed Load Measurement*: There are several methods available for measurement of bed load (volumetric method, measurement by samplers, method of tracers, method of constricted cross section, study of sound waves, etc.). The measurement methods should be selected in accordance with river regime.

4. *Total Sediment Load*

Sediment transport may be divided into two categories: sediment maintained in suspension in the stream (suspended load), and sediment being carried along the streambed (bed load). To measure the total sediment load, each of these must be measured separately and then totalled. The total sediment load was not computed for this publication.

5. *Sediment Survey Laboratories*

The Water Resources Branch maintain sediment survey laboratories in New Westminster, British Columbia; Regina, Saskatchewan; Guelph, Ontario; and Moncton, New Brunswick. The laboratories are equipped to perform the following analyses:

(a) determination of sediment concentration by (1) filtration method, (2) evaporation method and (3) determination of total dissolved solids by evaporation method.
(b) particle-size distribution analysis by (1) bottom withdrawal tube method, (2) sieving and (3) hydrometer method.

Determination of the sediment concentration by the evaporation method is carried out by evaporating the water from the settled sediment sample, with the results being corrected for dissolved solids. The quantity of dissolved solids is determined by evaporating a portion of the decanted water of a sample. In the filtration method, the suspended sediment concentration of water samples is determined by utilizing Gooch crucibles with a Reeve Angel 934AH filter and a Millipore AP20 prefilter and a vacuum system.

section transversale. Cette méthode fait appel à des graphiques pour le calcul du débit des sédiments.

Le rapport entre la concentration des sédiments en suspension dans les échantillons prélevés sur une seule verticale et la concentration moyenne dans la section transversale, telle que déterminée à partir des mesures du débit des sédiments en suspension, est établi pour quelques stations. Il permet de corriger les concentrations mesurées à une seule verticale de manière à donner la concentration moyenne dans la section transversale. Les concentrations moyennes ainsi déterminées sont reportées sur un graphique, et une courbe lisse passant par les points marqués est tracée. Le graphique obtenu représente la concentration moyenne des sédiments en suspension pour la période de relevé. Les concentrations moyennes quotidiennes sont déterminées automatiquement à l'aide d'un convertisseur analogique-numérique relié à un mini-ordinateur numérique.

Les valeurs journalières du débit des sédiments en suspension sont calculées à partir du débit du cours d'eau et des concentrations des sédiments en suspension recueillis. Elles sont exprimées en tonnes par jour. On les détermine en multipliant la concentration moyenne journalière des sédiments (mg/L) par le débit moyen journalier (m^3/s) et par un facteur de conversion approprié, 0.0864.

(d) *Échantillonnage des matériaux du lit*: Dans une section transversale, les échantillons des matériaux du lit sont ordinairement prélevés aux mêmes verticales que ceux des sédiments en suspension. Souvent, des échantillons supplémentaires sont pris près des rives, là où le niveau d'eau est extrême et à d'autres points de la section transversale. Leur nombre total pour une section donnée varie ordinairement entre cinq et neuf.

(e) *Mesure du charriage*: La mesure peut se faire par plusieurs méthodes (méthode volumétrique, mesure à l'aide d'échantillonneurs, méthode des traceurs, méthode de la section transversale rétrécie, étude des ondes sonores, etc.). Le choix se fondera sur la nature du régime du cours d'eau.

4. *Débit solide total*

Il y a deux catégories de sédiments: les sédiments maintenus en suspension au sein de l'eau (sédiments en suspension), et les sédiments charriés sur le lit d'un cours d'eau (charriage de fond). Les deux types de sédiments doivent être mesurés séparément et leurs valeurs additionnées si on veut mesurer le débit total des sédiments. Toutefois, on ne l'a pas calculé aux fins de la présente publication.

5. *Laboratoires d'analyse*

La Direction des ressources en eau possède des laboratoires d'analyse des sédiments à New Westminster (Colombie-Britannique), Regina (Saskatchewan), Guelph (Ontario) et Moncton (Nouveau-Brunswick). Les laboratoires disposent des appareils nécessaires pour effectuer les analyses suivantes:

(a) la détermination de la concentration des sédiments par (1) filtration, (2) évaporation, et (3) détermination des matières dissoutes totales par évaporation.
(b) l'analyse granulométrique (1) par extraction des sédiments déposés dans un tube, (2) par l'emploi de tamis et (3) par l'utilisation d'un hydromètre.

La méthode par évaporation consiste à faire évaporer l'eau d'un échantillon de sédiments décanté et à corriger les résultats pour tenir compte des matières dissoutes. La quantité de celles-ci est déterminée en faisant évaporer une partie de l'eau de l'échantillon décanté. Dans la méthode par filtration, on utilise sous vide des creusets de Gooch munis d'un filtre Reeve Angel 934AH et d'un préfiltre Millipore AP20.

Particle-size analysis was carried out for some suspended sediment samples having gross weights in the range of 0.15 to 5 g using the Bottom Withdrawal Tube method. The particle-size distribution of the Bottom Withdrawal Tube method ranges from 0.002 to 1.000 mm. The Sieve analysis method may be used for samples with a large amount of material coarser than 0.062 mm.

The particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)
Clay	0.000 24 - 0.004
Silt	0.004 - 0.062
Sand	0.062 - 2.0
Gravel	2.0 - 64.0

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analyzed in distilled water. Chemical dispersion is not used for native-water analysis.

6. *Accuracy and Reliability of Field Data and Computed Results*

The overall accuracy and degree of reliability of the sediment data is dependent upon many factors. Some of the more important of these are:

(a) accuracy and reliability of streamflow records;
(b) regime of the river;
(c) type of sampling equipment used to collect the suspended sediment samples;
(d) frequency of suspended sediment discharge measurements;
(e) frequency of individual sampling;
(f) quality of the relationship between the average suspended sediment concentration in the cross section and the concentration of the individual samples;
(g) frequency and method of bed material sampling;
(h) frequency and method of bed load measurements;
(i) accuracy and reliability of the laboratory analysis;
(j) selected methods of computation of the suspended sediment discharge;
(k) interpretation and extrapolation of sediment records.

An assessment of the quality of the records can be made by an examination of the occurrence of the symbol (S) on the daily mean concentrations.

In general, data collected during open-water periods are more reliable than those collected during periods of ice conditions or those records obtained by estimation. Further, water level data collected utilizing a water-stage recorder are more reliable and accurate than those using a manual gauge only, especially for small or flashy streams.

Une analyse granulométrique a été effectuée pour certains échantillons de sédiments en suspension ayant un poids brut dans l'intervalle de 0.15 à 5 g par la méthode de la burette (extraction des sédiments déposés, à divers intervalles). La distribution de la taille des particules déterminée par cette méthode varie de 0.002 à 1.000 mm. La méthode de tamisage peut être employée pour les échantillons ayant une forte quantité de particules de taille supérieure à 0.062 mm.

La classification granulométrique qui est utilisée dans la présente publication est conforme aux recommandations faites par l'*American Geophysical Union Subcommittee on Sediment Terminology*. La classification est la suivante:

Classification	Taille (mm)
Argile	0.000 24 - 0.004
Limon	0.004 - 0.062
Sable	0.062 - 2.0
Gravier	2.0 - 64.0

La répartition granulométrique qui est fournie dans cette publication, n'est pas obligatoirement représentative de toutes les particules qui sont transportées par un cours d'eau donné. La plupart des matières organiques sont extraites de l'échantillon qui est ensuite soumis à une dispersion mécanique et chimique avant d'être analysé dans de l'eau distillée. La dispersion chimique ne sert pas à l'analyse de l'eau naturelle.

6. *Exactitude des données et des résultats*

L'exactitude des données sur les sédiments dépend de nombreux facteurs. On peut citer, parmi les plus importants:

(a) l'exactitude des données sur les débits;
(b) le régime d'un cours d'eau;
(c) le type d'appareil d'échantillonnage utilisé pour prélever les échantillons de sédiments en suspension;
(d) la fréquence des mesures du débit des sédiments en suspension;
(e) la fréquence des échantillonnages isolés;
(f) la qualité du rapport entre la concentration moyenne des sédiments en suspension dans une section transversale et la concentration des échantillons isolés;
(g) la fréquence des échantillonnages des matériaux de fond et la méthode utilisée;
(h) la fréquence des mesures du charriage de fond et la méthode utilisée;
(i) l'exactitude des analyses de laboratoire;
(j) les méthodes de calcul du débit des sédiments en suspension;
(k) l'interprétation et l'extrapolation des données sur les sédiments.

La qualité des données peut être évaluée d'après la fréquence d'utilisation du symbole (S), avec les données sur la concentration journalière moyenne.

En général, les données recueillies au cours des périodes d'eau libre sont plus sûres que celles qui sont obtenues au cours des périodes de glaces ou par estimation. De plus, les données sur le niveau des eaux qui sont mesurées à l'aide d'un limnigraphe sont plus certaines et plus exactes que celles qui sont mesurées à l'aide d'une jauge manuelle seulement, surtout dans le cas des petits cours d'eau ou des cours d'eau à crues très rapides.

METHOD OF TABULATION OF SEDIMENT DATA

For stations where the suspended sediment load was obtained, the following data are given where available:

1. The table of *Suspended Sediment Load* includes the daily mean discharge in cubic metres per second, the daily mean concentration in milligrams per litre, and the daily suspended sediment load in tonnes per day. The total monthly discharge and total monthly sediment load are also given for each month of record.

   For stations where the sediment load in tonnes per day are produced for complete or partial years, the *Total Suspended Load* for the period is given in the descriptive information.

   For stations where only suspended sediment concentrations are obtained, the table of *Suspended Sediment Load* will not be given.

   Additional descriptive information about the sediment station is also given and will indicate the following, where applicable.

   Location – the latitude and longitude co-ordinates of the location of the gauge are given. For stations where the gauge is located an appreciable distance from the discharge measurement section, these co-ordinates give the location of the discharge measurement section.

   Drainage area – refers to that area enclosed by a topographic divide such that direct surface runoff from precipitation would drain by gravity into the stream upstream from the location of the station.

   Type of Flow – where the flow is known to be natural, this is indicated. The flow of water in many river systems is affected by upstream regulation. In some cases, the extent of this regulation is not known and therefore is not indicated. However, where the regulation is known to be "appreciable", this is indicated as well as the year that the regulation began, if known.

   Type of Gauge – refers to the installation or method used to obtain water level or discharge data:

   (a) Manual – a non-recording type of gauge from which observations of stage normally are obtained once daily.

   (b) Recording – a water-stage recorder from which continuous water levels are obtained on an analog chart. For most International Gauging Stations located in the United States, water level records are obtained utilizing a digital recorder.

   International Gauging Station – on waters adjacent to the international boundary, certain gauging stations have been

PRÉSENTATION DES TABLEAUX DE DONNÉES SUR LES SÉDIMENTS

Pour les stations de mesure du débit des sédiments en suspension, les données suivantes sont présentées, pour autant qu'elles sont disponibles:

1. Le tableau concernant le *débit des sédiments en suspension* (The table of Suspended Sediment Load) donne le débit journalier moyen de l'eau, en mètres cubes par seconde, la concentration journalière moyenne, en milligrammes par litre, et le débit journalier des sédiments en suspension, en tonnes par jour. Chaque mois les données indiquent également les débits mensuels totaux de l'eau et des sédiments.

   Dans le cas des stations où le débit des sédiments, en tonnes par jour, est fourni pour une année complète ou une partie de l'année, le total pour la période est indiqué.

   Dans le cas des stations où seule la concentration des sédiments en suspension est obtenue, ce tableau est absent.

   Des renseignements descriptifs additionnels au sujet de la station sont également présentées. On peut y apporter les précisions suivantes:

   Emplacement (Location) – La latitude et la longitude de la station de jaugeage sont indiquées. Dans les cas où l'équipement de mesure est situé à une bonne distance de la section où le jaugeage est effectué, on indique les coordonnées de cette section.

   Superficie du bassin versant (Drainage area) – Désigne la zone délimitée par une ligne de faîte de sorte que l'écoulement de surface direct provenant des précipitations est entraîné par gravité vers le cours d'eau, en amont de la station.

   Type de débit (Type of Flow) – Un débit reconnu comme naturel est indiqué. Le débit de nombreux réseaux hydrographiques est modifié par une régularisation effectuée en amont. Dans certains cas, l'importance de cette régularisation n'est pas connue, et elle n'est donc pas indiquée. Cependant, quand on sait que la régularisation est d'une certaine importance, on l'indique, ainsi que l'année où elle a débuté (si elle est connue).

   Type de jauge (Type of Gauge) – Il s'agit des jauges ou des méthodes de jaugeage utilisées pour obtenir les données sur le niveau ou le débit d'un cours d'eau.

   (a) *Manuel* (Manual) – Indique qu'un appareil non enregistreur est employé pour obtenir normalement une fois par jour les données sur le niveau et le débit du cours d'eau.

   (b) *Enregistreuse* (Recording) – Indique qu'un limnigraphe permet de mesurer de façon continue le niveau des eaux qui est tracé sur un graphique. La plupart des stations internationales de jaugeage des États-Unis obtiennent les données sur le niveau des eaux à l'aide d'un enregistreur numérique.

   Station internationale de jaugeage (International Gauging Station) – Dans les eaux contiguës aux frontières, on a

designated as "International" and records are approved jointly. Differences between figures published herein and corresponding figures in United States Water Supply Papers are due to variations in automated data processing techniques.

Contributed Data – if data were supplied in their entirety or partially by an outside agency, the name of this co-operating agency is given.

Remarks – contains a statement pertaining to the sediment sample collection.

2. The table of *Instantaneous Suspended Sediment Concentration* for depth-integrating samples includes the following: Date and Time of the sample collection; Water Temperature; Instantaneous Discharge at time of sampling, (if not available the daily mean discharge is given and indicated by a symbol); Single Sampling Vertical location; Dissolved Solids; Percent Sand, Silt and Clay; Type of Sampler used. The particle-size distribution in percent in millimetres and the percent Sand, Silt and Clay, is given where available.

The Single Sampling Vertical Location is defined by many symbols, which are as follows, where applicable:

DIGITS - 5, 14, 130, etc., is the distance in metres from the initial point
WERB - Water's Edge RIGHT Bank
WELB - Water's Edge LEFT Bank
1QRB - One-quarter the distance FROM the RIGHT Bank
3QRB - Three-quarters the distance FROM the RIGHT Bank
1QLB - One-quarter the distance FROM the LEFT Bank
3QLB - Three-quarters the distance FROM the LEFT Bank
MID - MID STREAM
MULT - Composite sediment measurement

For the suspended sediment measurements, the Date; Time; Water Temperature at time of sampling; Discharge computed for each sampling panel; Concentration; Sampling Vertical; Dissolved Solids; Percent Sand, Silt and Clay; Type of Sampler used; and the Particle-size distribution of the Sand, Silt and Clay, in percent is given where available.

3. The table of *Split Vertical Suspended Sediment* for depth-integrating samples includes the following: Date and Time of the sample collection; Water Temperature; Instantaneous Discharge at time of sampling, (if not available the daily mean discharge is given and indicated by a symbol); Sampling Vertical; Depth of Sample (giving the depth sampled from and the depth sampled to); Concentration of Sample, in milligrams per litre, Dissolved solids, in milligrams per litre; and the Particle-size distribution in percent in millimetres and the percent Sand, Silt and Clay are also given.

désigné certaines stations comme «internationales», et les données obtenues sont approuvées par les pays concernés. Les différences entre les chiffres publiés dans la présente publications et dans les *United States Water Supply Papers* sont dues à des variantes dans les techniques de traitement automatique des données.

Données fournies (Contributed Data) – Lorsqu'un organisme extérieur a fourni toutes les données ou une partie des données, son nom est indiqué.

Remarques (Remarks) – Renseignements au sujet du prélèvement des échantillons de sédiments.

2. Le tableau des *concentrations instantanées de sédiments en suspension* (The table of Instantaneous Suspended Sediment Concentration) pour les échantillons obtenus par intégration selon la profondeur comprend: la date et l'heure de prélèvement; la température de l'eau; son débit instantané au moment de l'échantillonnage (s'il n'est pas connu, le débit journalier moyen, avec symbole); l'emplacement de la verticale d'échantillonnage; la concentration des matières dissoutes; les pourcentages de sable, de limon et d'argile; le type d'échantillonneur employé; et la granulométrie du sable, du limon et de l'argile, en pourcentage en millimètres et le pourcentage des particules est donné lorsqu'il est disponible.

Le site vertical d'échantillonnage unique est défini par plusieurs symboles dont les suivants dans certains cas :

CHIFFRE - 5, 14, 130, etc., désigne la distance en mètres à partir du point initial
WERB - Bord de l'eau, rive DROITE
WELB - Bord de l'eau, rive GAUCHE
1QRB - Un quart de la distance À PARTIR de la rive DROITE
3QRB - Trois quarts de la distance À PARTIR de la rive DROITE
1QLB - Un quart de la distance À PARTIR de la rive GAUCHE
3QLB - Trois quarts de la distance À PARTIR de la rive GAUCHE
MID - MI-DÉBIT
MULT - Mesure des sédiments mixtes

Pour les mesures des sédiments en suspension, la date, l'heure, la température de l'eau au moment de l'échantillonnage, le débit calculé pour chaque tranche de la section d'échantillonnage, la concentration et la verticale d'échantillonnage, la concentration des matières dissoutes; les pourcentages de sable, de limon et d'argile; le type d'échantillonneur employé; et la granulométrie du sable, du limon et de l'argile, en pourcentage des particules est donnée lorsqu'elle est disponible.

3. Le tableau des *sédiments en suspension fractionnés pris à la verticale* (The Table of Split Vertical Suspended Sediment) pour les échantillons obtenus par intégration selon la profondeur comprend les éléments suivants : la date et l'heure de l'échantillonnage; la température de l'eau; le débit instantané au moment de l'échantillonnage (s'il n'est pas disponible, on donne le débit moyen quotidien et on l'indique par un symbole), la verticale d'échantillonnage; la profondeur (donner la profondeur à laquelle l'échantillon a été pris); et la profondeur à laquelle l'échantillon a été attributé la concentration des échantillons, en milligrammes par litre; la concentration des matières dissoutes, en milligrammes par litre; la distribution des sédiments de la taille de particules en pourcentage en millimètres; le pourcentage de sable, de limon et d'argile.

4. The table of *Point Integrating Particle-size of Suspended Sediment* includes the following: Date and Time of the sample collection; Water Temperature; Panel Discharge for each sampling vertical; Sampling Vertical; Depth of Sample; Concentration of Sample, in milligrams per litre; Dissolved Solids in milligrams per litre, and the Particle-size distribution in percent in millimetres and the percent Sand, Silt and Clay are also given.

5. The table of *Bed Load Particle-size* includes the following: Date and Time of the sample collection; Panel Discharge; Sampling Vertical and the Type of Sampler used in the collection of the sample and the Particle-size distribution, in percent in millimetres, for each sample of bed load collected.

6. The table of *Bed Material Particle-size* includes the following: Date and Time of the sample collection; Panel Discharge; Sampling Vertical and the Type of Sampler used in the collection of the sample and the Particle-size distribution, in percent in millimetres, for each sample of bed material collected.

7. The table of *Historical Sediment Data Summary* gives the following, for the period of record, where applicable.

   (a) Record Summary
   (b) Type of Sampling
   (c) Sampled Concentration, maximum and minimum
   (d) Suspended Sediment Load, maximum daily and the total, for the period, in tonnes
   (e) Summary, including mean load, the historical mean load and the standard error of the mean in percent.

(a) The *Record Summary* gives the months of record that data are available. If the complete month is on file the symbol (C) is shown, while partial months of data are indicated by the symbol (P). Months with no data on file are indicated by (-).

(b) The *Type of Sampling* indicates the type of sampling method used to collect the sediment samples during the period of operation. If the samples were collected by manual methods this is indicated by "MANUAL." If the samples were collected by a pump sampler or some other automatic method this is indicated by "AUTO." If both manual and automatic sampling methods were used this is indicated by "DUAL."

(c) The *Sampled Concentration* gives the maximum and minimum concentration, in milligrams per litre, and the date of collection for each year of record. The extreme recorded for the period of record is indicated by an asterisk (*). If more than one maximum or minimum, of the same value, occurred during the year only the date of the first occurrence is identified by the asterisk.

(d) The *Suspended Sediment Load* gives the maximum daily load, in tonnes, and the date of occurrence. The extreme recorded is indicated by an asterisk (*). The Total for the Period gives

4. Le tableau de la *granulométrie des échantillons ponctuels et intégrés des sédiments en suspension* (The table of Point Integrating Particle-size of Suspended Sediment) comprend: la date et l'heure de prélèvement de l'échantillon, la température de l'eau, le débit de la tranche de la section pour chaque verticale d'échantillonnage, la verticale d'échantillonnage, la profondeur de l'échantillon, la concentration des échantillons, en milligrammes par litre, la concentration des matières dissoutes, en milligrammes par litre, et granulométrie en millimètres et en pourcentage du sable, du limon et de l'argile.

5. Le tableau de la *granulométrie des sédiments charriés* (The table of Bed Load Particle-size) comprend: la date et l'heure de prélèvement de l'échantillon, le débit de la tranche de la section, la verticale d'échantillonnage et le type d'échantillonneur employé et le pourcentage en millimètres des particules pour chaque échantillon recueilli du charriage.

6. Le tableau de la *granulométrie des matériaux du lit* (The table of Bed Material Particle-size) comprend: la date et l'heure de prélèvement de l'échantillon, le débit de la tranche de la section, la verticale d'échantillonnage et le type d'échantillonneur employé et le pourcentage en millimètres des particules pour chaque échantillon recueilli.

7. Le tableau du *sommaire chronologique des données sur les sédiments* (The table of Historical Sediment Data Summary) donne, pour la période pour laquelle les données sont disponibles, les renseignements suivants lorsque de telles données existent:

   (a) Le sommaire du relevé
   (b) Le type d'échantillonnage
   (c) Les concentrations mesurées, maximum et minimum
   (d) Le débit des sédiments en suspension, maximum quotidien et le total pour la période en tonnes
   (e) Résumé, comprend le débit moyen, le débit moyen chronologique et l'erreur type de la moyenne en pourcentage.

(a) Le *sommaire du relevé* donne les mois de relevé pour lesquels les données sont disponibles. Le symbole (C) indique que les données sont disponibles pour tout le mois. Le symbole (P) indique que ces données ne sont disponibles que pour une partie du mois. Enfin, on indique par (-) les mois qui n'ont pas de données.

(b) Le *type d'échantillonnage* indique le type de méthode d'échantillonnage que l'on utilise dans le prélèvement des échantillons de sédiments pendant la période d'exploitation. Si le prélèvement des échantillons se fait par des méthodes manuelles, on indique «MANUEL». Si le prélèvement des échantillons se fait au moyen d'échantillonneur à pompe ou par quelque autre méthode automatique, on indique «AUTO». Si on utilise à la fois des méthodes d'échantillonnage manuelles et automatiques, on indique «DOUBLE».

(c) Pour les *concentrations mesurées* (Sampled Concentration), on donne la concentration maximale et la concentration minimale, en milligrammes par litre, et leur date d'obtention pour chaque année de relevé. La valeur extrême enregistrée est indiquée par un astérisque (*). Si la valeur du maximum ou du minimum a été mesurée plus d'une fois pendant l'année, on signale, par l'astérisque, seulement la date de la première mesure.

(d) Sous le *débit des sédiments en suspension* (Suspended Sediment Load), on donne le débit journalier maximal, en tonnes, et sa date de mesure. Le débit extrême enregistré est indiqué

the total load for the period or year, in tonnes. The extreme recorded is also indicated by an asterisk (*). If more than one maximum or minimum, of the same value, occurred during the year only the date of the first occurrence is identified by the asterisk. A load which has been revised since the previous publication is marked with the symbol (R) for Revision.

(e) The *Summary* gives the *Mean Load* and the *Historical Mean Load* in tonnes.

The *Standard Error of the Mean* % is calculated using the following equations:

$$SEM = \frac{S}{\bar{x}\sqrt{n}} \times 100\%$$

and

$$S = \sqrt{\frac{\Sigma (x - \bar{x})^2}{n - 1}}$$

where SEM is the Standard Error of the Mean.

- S is the Standard Deviation of the annual mean loads.
- x is the annual Mean Load variable.
- $\bar{x}$ is the Historical Mean Load or the arithmetic mean of the annual Mean Loads.
- n is the number of years for which there is an annual Mean Load.

For stations with only instantaneous samples, this table will not include the *Suspended Sediment Load* or the statistical information in the *Summary*.

DEFINITION OF TERMS

The following definitions are given to clarify the terms used in this publication:

Automatic pump sample is an individual water-sediment mixture pumped from a fixed point in a stream.

Bed load is that material moving in almost continuous contact with the streambed, being rolled or pushed along the bottom by the force of the water.

Bed material is the sediment mixture of which the streambed is composed.

Daily load is the suspended sediment load expressed in tonnes for a particular day. The daily load is obtained by multiplying the daily mean sediment concentration (mg/L) by the daily mean discharge (m^3/s) and the conversion factor, 0.0864.

Daily mean concentration is a time-weighted mean value and is computed from a manually constructed concentration curve. The mean concentration value may be determined arithmetically or graphically. The arithmetic mean is obtained either by (1) selecting values from the concentration graph that represents uniform intervals of time and taking the arithmetic average or by (2) selecting values from the graph that represent unequal intervals of time and weighing these values by the

par un astérisque (*). Le débit total pour la période ou pour l'année est indiqué. La valeur extrême est également signalée par un astérisque (*). Si la valeur du maximum ou du minimum a été mesurée plus d'une fois pendant l'année, on signale, par l'astérisque, seulement la date de la première mesure. La lettre R indique qu'une valeur du débit a été révisée depuis la dernière publication.

(e) Le *résumé* donne le *débit moyen* et le *débit moyen chronologique*, en tonnes.

L'*erreur-type de la moyenne* % (Standard Error of the Mean), est calculée à l'aide des équations suivantes:

$$SEM = \frac{S}{\bar{x}\sqrt{n}} \times 100\%$$

et

$$S = \sqrt{\frac{\Sigma (x - \bar{x})^2}{n - 1}}$$

où SEM est l'erreur type de la moyenne.

- S est l'écart type des débits moyens annuels.
- x est la variable du débit moyen annuel.
- $\bar{x}$ est le débit moyen chronologique ou la moyenne arithmétique des débits moyens annuels.
- n est le nombre d'années où il y a un débit moyen annuel.

Dans le cas des stations ne prélevant que des échantillons instantanés, ce tableau ne donnera pas le *débit des sédiments en suspension* ni les données statistiques du *résumé*.

DÉFINITION DES TERMES

Les définitions suivantes sont présentées afin de faciliter la compréhension des termes utilisés dans la présente publication:

Échantillonnage automatique à l'aide d'une pompe (Automatic pump sample): Prélèvement d'un mélange de sédiments et d'eau au moyen d'une pompe fonctionnant automatiquement, en un point précis d'un cours d'eau.

Charriage (Bed load): Matières roulées ou poussées sur le fond sous l'action de l'eau, mais restant en contact presque permanent avec le fond.

Matériau du lit (Bed material): Mélange de sédiments composant le lit d'un cours d'eau.

Débit journalier des sédiments en suspension (Daily load): Débit des sédiments en suspension exprimé en tonnes par jour, pour une journée donnée. On l'obtient en multipliant la concentration journalière moyenne des sédiments (mg/L) par le débit journalier moyen de l'eau (m^3/s) et le facteur de conversion 0.0864.

Concentration journalière moyenne (Daily mean concentration): Moyenne pondérée en fonction du temps, calculée à partir d'une courbe de la concentration établie manuellement. La valeur de la concentration moyenne peut être déterminée arithmétiquement ou graphiquement. Pour la déterminer arithmétiquement, on peut, soit choisir sur la courbe des valeurs représentant des intervalles uniformes de temps et faire la moyenne arithmétique, soit choisir sur cette courbe

time intervals represented by the concentrations. For graphical explanation refer to *Office Procedures for Sediment Data Computations* and for the automated graphical explanation refer to *Automated Hydrometric Computation Procedures.*

Depth-integrated sediment sample is a suspended sediment sample collected at a single vertical in a cross section in a sampler moving vertically at a constant transit rate and represents an average sample for that part of the depth ranging from the water surface to about nine centimetres above the streambed.

Instantaneous suspended sediment sample is a sample collected at a fixed vertical in a river cross section.

Measured suspended sediment discharge is the suspended sediment discharge that can be computed from stream discharge and the concentration of sediment determined from depth-integrated sediment samples.

Particle-size analysis is the process of determining the size distribution of particles in a sediment sample.

Point-integrated sediment sample is a sample of the water-sediment mixture taken over a specified period of time at a fixed point and depth in a river cross section.

Sediment is fragmental material which has been deposited, eroded or transported by a flowing stream.

Sediment hydrograph is a graph showing the variation of suspended sediment concentration or sediment discharge with respect to time.

Single sample is a sample taken at a selected permanent vertical in a cross section. Two bottles of water-sediment mixture make up each single sample.

Single sampling vertical is a selected permanent vertical in a cross section in which single suspended sediment samples are collected.

Suspended sediment is sediment that moves in suspension in water either as a colloid or through the influence of the upward component of turbulent currents.

Suspended sediment concentration is the ratio of the weight of dry solids in a water-sediment mixture to the volume of the mixture. The units of this ratio are "milligrams per litre" (mg/L).

Suspended sediment load is the quantity of suspended sediment transported through a cross section per unit of time.

des valeurs qui représentent des intervalles inégaux de temps et pondérer ces valeurs en fonction des intervalles de temps correspondants. En ce qui concerne les méthodes graphiques, consulter *Méthodes de bureau pour les calculs de données sur les sédiments* et, pour la méthode automatisée, *Automated Hydrometric Computation Procedures.*

Échantillon intégré sur toute la profondeur (Depth integrated sediment sample): Échantillon des sédiments en suspension prélevé sur une verticale précise d'une section transversale d'un cours d'eau à l'aide d'un échantillonneur se déplaçant verticalement à une vitesse constante; il représente un échantillon moyen des matières en suspension entre la surface de l'eau et environ 9 cm du fond.

Échantillon instantané de sédiments en suspension (Instantaneous suspended sediment sample): Échantillon prélevé à une verticale précise d'une section transversale d'un cours d'eau.

Débit mesuré des sédiments en suspension (Measured suspended sediment discharge): Débit des sédiments en suspension qui peut être calculé à partir du débit du cours d'eau et de la concentration des sédiments déterminée à partir d'échantillons intégrés sur toute la profondeur.

Analyse granulométrique (Particle-size analysis): Détermination de la répartition de la taille des particules dans un échantillon de sédiments.

Échantillon ponctuel et intégré (Point-integrated sediment sample): Échantillon constitué d'un mélange d'eau et de sédiments, prélevé au cours d'une période de temps donnée en un point précis d'une section transversale d'un cours d'eau et à une profondeur donnée.

Sédiments (Sediment): Matières fragmentaires qui ont été déposées, érodées ou transportées par un cours d'eau.

Hydrogramme des sédiments (Sediment hydrograph): Graphique représentant la variation de la concentration des sédiments en suspension ou du débit des sédiments en fonction du temps.

Échantillon unique (Single sample): Échantillon prélevé sur une verticale permanente particulière dans une section transversale. Deux bouteilles du mélange eau-sédiments constituent un seul échantillon.

Verticale d'échantillonnage unique (Single sampling vertical): Verticale permanente d'une section transversale où des échantillons uniques de sédiments en suspension sont prélevés.

Sédiments en suspension (Suspended sediment): Matériaux qui se déplacent au sein de l'eau, soit sous forme colloïdale, soit sous l'influence des forces ascendantes des courants turbulents.

Concentration des sédiments en suspension (Suspended sediment concentration): Rapport entre le poids des matières solides sèches contenues dans un mélange eau-sédiments et le volume du mélange. Les unités employées sont les «milligrammes par litre» (mg/L).

Débit des sédiments en suspension (Suspended sediment load): Quantité de sédiments en suspension transportés par unité de temps à travers une section transversale d'un cours d'eau.

Total sediment load is the sum of the suspended sediment load and the bed load.

Unmeasured sediment load is the difference between total sediment load and measured suspended sediment load.

DEFINITION OF SYMBOLS

Symbols are located at the bottom of the data sets under the headings Time, Discharge, Concentration, and Dissolved Solids. The symbols with their definitions are listed below.

Time Symbol

E – *Estimated* – indicates estimated data. It indicates that the time of sample collection is estimated by some indirect method or comparison with other stream data.

Discharge Symbol(s)

A – *Manual Gauge* – indicates that one or more manual gauge observations per day were obtained and used as the mean for the day for a gauging station equipped with a recording gauge. This symbol is used during open-water periods only.

B – *Ice Conditions* – indicates the presence of ice at the gauging station. For gauging stations where discharge data are obtained, this symbol indicates that the presence of ice has affected the stage-discharge relationship.

E – *Estimated* – indicates estimated data. It indicates that the values recorded are estimated by some indirect method such as interpolation, extrapolation, comparison with other streams or by comparison with meteorological data.

H – *Daily Mean Discharge* – is the mean discharge for a particular day, usually referred to as the "daily mean discharge".

V – *Daily Mean; Manual Gauge* – is the mean discharge for a particular day and indicates that one or more manual gauge observations per day were obtained and used as the mean for the day.

W – *Daily Mean; Ice Conditions* – is the mean discharge for a particular day and indicates that the presence of ice has affected the stage-discharge relationship.

Y – *Daily Mean; Estimated* – is the mean discharge for a particular day and indicates that the value has been estimated by some indirect method.

Concentration Symbol(s)

C – *Coarse Material Present* – indicates that during the laboratory analysis coarse material (sand) was observed in the sediment sample.

Débit total des sédiments (Total sediment load): Somme du débit des sédiments en suspension et du débit charrié.

Débit non mesuré des sédiments (Unmeasured sediment load): Différence entre le débit total des sédiments et le débit mesuré des sédiments en suspension.

DÉFINITION DES SYMBOLES

Les symboles figurent au bas des séries de données et sont traités sous les rubriques Temps, Débit, Concentration, Matières solides en solution. Ces symboles avec leurs définitions sont donnés dans la liste ci-après.

Symbole du temps :

E – *Estimative* – Indique des données estimatives, c'est-à-dire que l'heure de prélèvement de l'échantillon est évaluée de façon indirecte ou par comparaison avec d'autres données sur les cours d'eau.

Symbole(s) du débit :

A – *Turbidisonde simple* – Indique qu'on a effectué à une station de jaugeage dotée d'une turbidisonde enregistreuse au moins une observation par jour à l'aide d'une turbidisonde simple et qu'on s'en est servi comme moyenne pour la journée en question. Le symbole n'est employé qu'au cours des périodes d'eau libre.

B – *Glaces* – Indique la présence de glaces à la station de jaugeage, qui ont faussé la relation hauteur-débit.

E – *Estimative* – Indique des données estimatives, c'est-à-dire que les valeurs enregistrées sont évaluées de façon indirecte, par exemple par interpolation, extrapolation, ou par comparaison avec d'autres cours d'eau ou avec des données météorologiques.

H – *Débit journalier moyen* – Débit moyen pour une journée donnée, ordinairement appelé «débit journalier moyen».

V – *Débit journalier moyen; turbidisonde simple* – Débit moyen pour une journée donnée; indique qu'on a effectué au moins une observation par jour et qu'on s'en est servi comme moyenne pour la journée en question.

W – *Débit journalier moyen; glaces* – Débit moyen pour une journée donnée; indique que la présence de glaces a faussé la relation hauteur-débit.

Y – *Débit journalier moyen; estimative* – Débit moyen pour une journée donnée; indique que la valeur a été évaluée de façon indirecte.

Symbole(s) de la concentration :

C – *Sable grossier présent* – Indique qu'au cours de l'analyse en laboratoire on a observé du sable grossier dans un échantillon de sédiments.

F – ***Sample Bottle Filled*** – indicates that during the laboratory analysis it was observed that the sample bottle had been filled to capacity.

G – ***Organic Material Present*** – indicates that during the laboratory analysis it was observed that organic material was collected in the sample bottle.

Single Vertical Symbol(s)

K – ***Sampling vertical not at the regular single vertical from LEFT bank*** – indicates that a sample was collected at a location from the left bank, in a cross-section, which is not at the regular single vertical.

L – ***Sediment measurement vertical not at the regular measurement cross-section from LEFT bank*** – indicates that the measurement sampling verticals were established from the left bank, in a cross-section which is not the regular measurement cross-section.

M – ***Sediment measurement vertical*** – indicates that the sampling vertical is one of several, usually five, and represents a panel width. The instantaneous discharge represents the flow for a panel width.

X – ***Sampling vertical not at the regular single vertical*** – indicates that a sample was collected at a location, in a cross-section, which is not at the regular single vertical. The location of the regular single vertical is given at the bottom of the Instantaneous Suspended Sediment data.

Z – ***Sediment measurement vertical not at the regular measurement cross-section*** – indicates that a suspended sediment measurement was collected in a cross-section which is not the regular measurement corss-section.

Note: If no symbol is present the samples have then been collected at the regular Single Vertical.

F – ***Flacon d'échantillonnage rempli*** – Indique qu'au cours de l'analyse en laboratoire on a observé que le flacon d'échantillonnage avait été complètement rempli.

G – ***Substance organique présente*** – Indique qu'au cours de l'analyse en laboratoire on a observé qu'une substance organique a été prélevée dans le flacon d'échantillonnage.

Symbole(s) de la verticale unique :

K – ***Verticale d'échantillonnage à l'extérieur de la verticale unique habituelle à partir de la rive GAUCHE*** – Indique qu'un échantillon a été prélevé à un endroit à partir de la rive gauche, dans une section transversale, mais à l'extérieur de la verticale unique habituelle.

L – ***Verticale de mesure des sédiments, à l'extérieur de la section transversale de mesure habituelle à partir de la rive GAUCHE*** – Indique que les verticales de mesure d'échantillonnage ont été établies à partir de la rive gauche, dans un section transversale à l'extérieur de la section transversale de mesure habituelle.

M – ***Verticale de mesure des sédiments*** – Indique que la verticale d'échantillonnage est l'une de plusieurs verticales, en général cinq, et qu'elle représente la dimension d'une tranche. Le débit instantané représente le débit relatif à la dimension d'une tranche.

X – ***Verticale d'échantillonnage à l'extérieur de la verticale unique habituelle*** – Indique qu'un échantillon a été prélevé à un endroit, dans une section transversale, mais à l'extérieur de la verticale unique habituelle. L'endroit de la verticale unique habituelle est donné à la fin des données sur les sédiments en suspension instantanés.

Z – ***Verticale de mesure des sédiments, à l'extérieur de la section transversale de mesure habituelle*** – Indique qu'une mesure de sédiments en suspension a été prise dans une section transversale à l'extérieur de la section transversale de mesure habituelle.

Note : S'il n'y a pas de symbole, cela indique que les échantillons ont été prélevés à la verticale unique habituelle.

EQUIVALENTS OF MEASURE

The following list of convenient equivalents of measure includes the relationship between imperial units and the International System of Units (SI).

1 inch equals 2.54 cm (centimetres)
1 foot equals 0.3048 m (metre)
1 statute mile equals 1.6093 km (kilometres)

1 cm (centimetre) equals 0.393 70 inch
1 m (metre) equals 3.2808 feet
1 km (kilometre) equals 0.621 37 mile

1 acre equals 43 560 square feet
1 acre equals 0.404 69 ha (hectare)
1 square mile equals 640 acres
1 square mile equals 2.5900 km^2 (square kilometres)
1 square mile equals 259.0 ha (hectares)

1 ha (hectare) equals 10 000 m^2 (square metres)
1 ha (hectare) equals 2.4710 acres
1 km^2 (square kilometre) equals 0.386 10 square mile

1 cubic foot equals 6.2288 imperial gallons
1 imperial gallon equals 4.546 09 L (litres)
1 imperial gallon equals 1.2010 U.S. gallons
1 U.S. gallon equals 0.133 68 cubic foot
1 cubic foot equals 0.028 317 m^3 (cubic metre)
1 m^3 (cubic metre) equals 35.315 cubic feet
1 dam^3 (cubic decametre) equals 1000 m^3 (cubic metres)
1 dam^3 (cubic decametre) equals 1 mm (millimetre) over 1 km^2 (square kilometre)

1 cubic foot per second for one day equals 1.9835 acre-feet
1 cubic foot per second for one day covers one square mile to a depth of 0.037 19 inch
1 acre-foot equals 1.2335 dam^3 (cubic decametres)
1 m^3/s (cubic metre per second) for one day equals 86.4 dam^3 (cubic decametre)
1 m^3/s (cubic metre per second) for one day covers one square kilometre to a depth of 0.0864 m (metre)

1 foot per second equals 0.6818 mile per hour
1 mile per hour equals 1.467 feet per second
1 m/s (metre per second) equals 3.6 km/h (kilometre per hour)
1 km/h (kilometre per hour) equals 0.2778 m/s (metre per second)

1 cubic foot per second equals 0.028 317 m^3/s (cubic metre per second)
1 m^3/s (cubic metre per second) equals 35.315 cubic feet per second

1 pound equals 0.453 59 kg (kilogram)
1 kg (kilogram) equals 2.2046 pounds

1 short ton (2000 pounds) equals 0.907 18 t (tonne)
1 t (tonne) equals 2204.6 pounds

degrees Celsius = 5/9 (degrees Fahrenheit - 32)
degrees Fahrenheit = 9/5 (degrees Celsius) + 32

ÉQUIVALENCES DES UNITÉS DE MESURE

Voici une liste des unités de mesure impériales et leurs équivalences dans le Système international d'unités (SI).

1 pouce vaut 2.54 cm (centimètres)
1 pied vaut 0.3048 m (mètre)
1 mille terrestre vaut 1.6093 km (kilomètre)

1 cm (centimètre) vaut 0.393 70 pouce
1 m (mètre) vaut 3.2808 pieds
1 km (kilomètre) vaut 0.621 37 mille

1 acre vaut 43 560 pieds carrés
1 acre vaut 0.404 69 ha (hectare)
1 mille carré vaut 640 acres
1 mille carré vaut 2.5900 km^2 (kilomètres carrés)
1 mille carré vaut 259.0 ha (hectares)

1 ha (hectare) vaut 10 000 m^2 (mètres carrés)
1 ha (hectare) vaut 2.4710 acres
1 km^2 (kilomètre carré) vaut 0.386 10 mille carré

1 pied cube vaut 6.2288 gallons impérials
1 gallon impérial vaut 4.546 09 L (litres)
1 gallon impérial vaut 1.2010 gallon américain
1 gallon américain vaut 0.133 68 pied cube
1 pied cube vaut 0.028 317 m^3 (mètre cube)
1 m^3 (mètre cube) vaut 35.315 pieds cubes
1 dam^3 (décamètre cube) vaut 1000 m^3 (mètres cubes)
1 dam^3 (décamètre cube) vaut 1 mm (millimètre) qui couvre 1 km^2 (kilomètre carré)

1 pied cube par seconde pendant un jour vaut 1.9835 acre-pied
1 pied cube par seconde pendant un jour couvre un volume d'un mille carré par 0.037 19 pouce
1 acre-pied vaut 1.2335 dam^3 (décamètre cube)
1 m^3/s (mètre cube par seconde) pour un jour vaut 86.4 dam^3 (décamètres cubes)
1 m^3/s (mètre cube par seconde) pour un jour couvre un kilomètre carré à une profondeur de 0.0864 m (mètre)

1 pied par seconde vaut 0.6818 mille par heure
1 mille par heure vaut 1.467 pied par seconde
1 m/s (mètre par seconde) vaut 3.6 km/h (kilomètres par heure)
1 km/h (kilomètre par heure) vaut 0.2778 m/s (mètre par seconde)

1 pied cube par seconde vaut 0.028 317 m^3/s (mètre cube par seconde)
1 m^3/s (mètre cube par seconde) vaut 35.315 pieds cubes par seconde

1 livre vaut 0.453 59 kg (kilogramme)
1 kg (kilogramme) vaut 2.2046 livres

1 tonne courte (2000 livres) vaut 0.907 18 t (tonne)
1 t (tonne) vaut 2204.6 livres

degrés Celsius = 5/9 (degrés Fahrenheit - 32)
degrés Fahrenheit = 9/5 (degrés Celsius) + 32

CO-OPERATION AND ACKNOWLEDGMENTS

Co-operative undertakings with other agencies form an important part of the activities of the Water Survey of Canada. Close co-operation has been maintained with public agencies and private organizations concerned with water resources. Data have been mutually exchanged and suspended sediment collection operations have been facilitated by the assistance received from a number of organizations.

On waters adjacent to the International Boundary, certain sediment stations are maintained by Canada (or the United States) under agreement with the United States (or Canada) and the records are collected and compiled in a manner equally acceptable to both countries. These stations are designated as "International Gauging Stations" in this publication.

For the valuable assistance and co-operation received in obtaining sediment survey records, the Water Survey of Canada is indebted to other federal and provincial organizations which are noted as contributing agencies in the summary for the year. A list of these agencies may be found in the *Sediment Data Reference Index*.

REVISIONS

A number of corrections or revisions have been made to previously published data. Many of these were required because of typographical or computational errors which were exposed when the data were stored on magnetic tape and monthly means were re-calculated by computer. Other errors were discovered or different interpretations of basic data were made during the systematic review of historical streamflow data.

Revisions to daily discharges or sediment data are not published at present. However, those stations where a systematic review has been conducted are identified in the Surface Water Data Reference Index publication. The Historical Streamflow Summary publications contain revisions to monthly and annual mean discharges, and annual extremes of discharge. Revisions, corrections or additions made to discharges and sediment after January 1, 1980, are indicated by an "R" symbol in the data summaries. Detailed information on revisions to historical data is available from the appropriate Regional Chief.

COOPÉRATION ET REMERCIEMENTS

Le travail entrepris en coopération avec d'autres organismes représente une partie importante des activités de la Division des relevés hydrologiques du Canada. On a maintenu une étroite collaboration avec les organismes, publics ou privés, qui s'intéressent aux ressources en eau. On a échangé des données sur les sédiments, et l'assistance fournie par certains organismes a facilité les opérations d'échantillonnage des sédiments en suspension.

Dans les eaux adjacentes à la frontière internationale, les stations dépendent du Canada ou des États-Unis selon l'accord intervenu entre les deux pays, et les relevés sont faits et compilés de façon à satisfaire les deux pays. Ces stations sont nommées «Stations internationales de jaugeage» dans la présente publication.

La Division des relevés hydrologiques du Canada est redevable à plusieurs organismes fédéraux et provinciaux, dont les noms apparaissent dans le sommaire de l'année, de l'aide et de la collaboration qu'ils lui ont apportées pour l'obtention des données sur les sédiments. On trouvera également les noms des organismes qui ont fourni des données dans l'*Index de référence des données sur les sédiments*.

RÉVISIONS

On a corrigé ou révisé des données déjà publiées. Il a été nécessaire d'effectuer plusieurs corrections, car on a relevé des erreurs typographiques ou de calcul lorsqu'on a enregistré les données sur rubans magnétiques et qu'on a recalculé les moyennes mensuelles à l'aide d'un ordinateur. On a aussi relevé d'autres erreurs ou fait des interprétations différentes de certaines données de base au cours de la révision systématique des données historiques sur le débit.

Les corrections apportées aux débits journaliers ou aux données sur les sédiments ne sont pas publiées, du moins pour le moment. Cependant, les stations où on a effectué une révision systématique sont indiquées dans l'*Index de référence des données sur les eaux de surface*. Les publications intitulées *Sommaire chronologique de l'écoulement* contiennent des données révisées sur les débits mensuels et annuels moyens et les extrêmes annuels du débit. Les révisions, corrections ou ajouts apportés aux données sur les débits et sur les sédiments après le 1er janvier 1980 sont indiqués par la lettre R dans les résumés des données. On peut obtenir plus de détails sur les révisions en s'adressant au chef régional concerné.

ALCOTT CREEK ABOVE MEADOW LAKE - STATION NO. 05AD011

LOCATION: LAT 53 57 10 N LONG 107 58 30 W
DRAINAGE AREA: 416 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1988	-------P----	MANUAL	111 AUG 25 *	95 AUG 25 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ANTLER RIVER NEAR WAUCHOPE - STATION NO. 05NF010

LOCATION: LAT 49 35 03 N LONG 101 50 52 W
DRAINAGE AREA: 150 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1984	--P----------	MANUAL	7 MAR 27	7 MAR 27	--- ---	---	---	---	---
1985	--PPP--PPP--	MANUAL	25 MAR 19 *	1 MAY 1 *	--- ---	---	---	---	---
1986	--PP---------	MANUAL	18 MAR 26	3 APR 29	--- ---	---	---	---	---
1987	---P---------	MANUAL	14 APR 3	4 APR 7	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ASSINIBOINE RIVER AT KAMSACK - STATION NO. 05MD004

LOCATION: LAT 51 33 53 N LONG 101 54 58 W
DRAINAGE AREA: 13 000 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	SUMMARY : MAR-OCT HISTORICAL MEAN LOAD (TONNES)	SUMMARY : MAR-OCT STANDARD ERROR OF MEAN %
1969	---CCCCCCC--	MANUAL	156 JUL 8	1 SEP 20	636 APR 17	5 770	---	---	---
1970	CCCCCCCCCCCC	MANUAL	153 APR 18	0 JAN 1 *	468 APR 18	9 010	45.8	45.8	---
1971	CCCCCCCCCC--	MANUAL	338 APR 15 *	0 JAN 1	2 090 APR 15	17 700	65.6	65.7	30.2
1972	--CCCCCCCC--	MANUAL	148 APR 19	0 MAR 1	1 410 APR 19	15 300	74.3	68.6	17.2
1973	--CCCCCCCC--	MANUAL	43 APR 30	6 AUG 8	41.4 JUL 14	1 780	7.25	53.2	32.8
1974	--CCCCCCCC--	MANUAL	188 JUL 12	4 JUN 3	1 230 APR 25	14 800	60.4	54.7	24.9
1975	--CCCCCCCC--	MANUAL	152 APR 24	10 MAR 1	1 370 APR 24	23 900	97.5	61.8	21.4
1976	--CCCCCCCCP-	MANUAL	163 APR 13	10 MAR 1	2 140 APR 15 *	26 800 *	110	68.6	19.0
1977	--CCCCCCCC--	MANUAL	124 MAY 17	10 MAR 1	240 APR 18	2 860	11.7	61.5	21.7
1978	--CCCCCCCC--	MANUAL	134 APR 23	9 MAR 1	275 APR 24	4 440	18.1	56.7	22.5
1979	--CCCCCCCC--	MANUAL	201 APR 25	5 OCT 21	1 710 APR 26	19 900	81.1	59.1	19.7

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BATTLE RIVER AT BATTLEFORD - STATION NO. 05FF001

LOCATION: LAT 52 44 07 N LONG 108 20 09 W
DRAINAGE AREA: 29 700 km²
TYPE OF FLOW: REGULATED SINCE 1973
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1979	---CCPPPP---	MANUAL	1 440	APR 25	2	SEP 25	17 200	APR 25 *	70 900 *	---	---	---
1980	---PPPPPP-P-	MANUAL	1 420	APR 18	11	JUN 24	---	---	---	---	---	---
1981	---PPPPPP-P-	MANUAL	289	APR 15	0	JUL 21 *	---	---	---	---	---	---
1982	---PPPPPP-P-	MANUAL	723	MAY 11	42	NOV 1	---	---	---	---	---	---
1983	---PP-PPPP--	MANUAL	611	APR 18	23	OCT 31	---	---	---	---	---	---
1984	---PP-P-PP--	MANUAL	327	APR 10	10	JUL 30	---	---	---	---	---	---
1985	---P--------	MANUAL	2 000	APR 11 *	659	APR 24	---	---	---	---	---	---
1989	---PP-------	MANUAL	564	APR 20	243	APR 28	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BEAVER RIVER NEAR DORINTOSH - STATION NO. 06AD001

LOCATION: LAT 54 17 47 N LONG 108 36 16 W
DRAINAGE AREA: 20 500 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1979	----PPPP-P--	MANUAL	153	MAY 2	13	OCT 3	---	---	---	---	---	---
1980	---P-PPP-P--	MANUAL	319	APR 18 *	7	JUN 11	---	---	---	---	---	---
1981	---PPPPPP-P-	MANUAL	39	APR 15	5	SEP 22	---	---	---	---	---	---
1982	---PPPPPP---	MANUAL	253	APR 27	4	SEP 22	---	---	---	---	---	---
1983	---PPPPPP-P-	MANUAL	43	APR 19	1	SEP 7 *	---	---	---	---	---	---
1984	---PP-PPPP--	MANUAL	35	APR 11	5	MAY 1	---	---	---	---	---	---
1985	----P-------	MANUAL	182	MAY 7	111	MAY 7	---	---	---	---	---	---
1987	---P--------	MANUAL	137	APR 23	108	APR 23	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BIG GULLY CREEK NEAR MAIDSTONE - STATION NO. 05EF005

LOCATION: LAT 53 14 39 N LONG 109 17 45 W
DRAINAGE AREA: 1 620 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1984	--PPP-------	MANUAL	83	MAR 31 *	5	MAY 3 *	---	---	---	---	---	---
1985	---P-P------	MANUAL	35	APR 3	6	JUN 4	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BURNTOUT BROOK NEAR ARBORFIELD - STATION NO. 05KB005

LOCATION: LAT 53 06 16 N LONG 103 40 45 W
DRAINAGE AREA: 305 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1972	---P--------	MANUAL	659 APR 25		649 APR 25		---	---	---	---	---	---
1974	---P--------	MANUAL	586 APR 24		586 APR 24		---	---	---	---	---	---
1975	---PP-------	MANUAL	555 APR 25		181 MAY 5		---	---	---	---	---	---
1976	---CP-------	MANUAL	652 APR 11		46 MAY 19		410 APR 9		3 540	---	---	---
1977	---P--------	MANUAL	603 APR 10		57 APR 19		---	---	---	---	---	---
1978	---PP-------	MANUAL	625 APR 18		113 APR 14		---	---	---	---	---	---
1979	---PP-P-----	MANUAL	406 APR 22		26 JUL 6		---	---	---	---	---	---
1980	---PP-------	MANUAL	342 APR 12		13 MAY 13		---	---	---	---	---	---
1982	---PPP------	MANUAL	484 APR 20		26 JUN 11		---	---	---	---	---	---
1983	---CPP------	MANUAL	508 APR 20		0 APR 1	*	429 APR 20		1 210	---	---	---
1984	--CCCP------	MANUAL	738 APR 7	*	0 MAR 1		497 APR 7		3 420	---	---	---
1985	--CCCCP-----	MANUAL	706 APR 10		0 MAR 1		1 050 APR 14		6 880	* ---	---	---
1986	---CCC------	MANUAL	411 APR 10		0 JUN 27		530 APR 7		3 020	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

CARROT RIVER NEAR ARMLEY - STATION NO. 05KB003

LOCATION: LAT 53 08 11 N LONG 104 01 15 W
DRAINAGE AREA: 4 400 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1972	---P--------	MANUAL	381 APR 25		266 APR 27		---	---	---	---	---	---
1974	---P--------	MANUAL	956 APR 21	*	172 APR 19		---	---	---	---	---	---
1975	---PP-------	MANUAL	579 APR 26		220 MAY 6		---	---	---	---	---	---
1976	---CP-------	MANUAL	829 APR 10		5 APR 1		3 590 APR 9		27 800	---	---	---
1977	---PP-------	MANUAL	199 APR 14		54 MAY 3		---	---	---	---	---	---
1978	---PP-------	MANUAL	547 APR 19		40 APR 11		---	---	---	---	---	---
1979	--CCP-PP----	MANUAL	428 APR 27		0 MAR 1	*	11 500 APR 27		78 100	* ---	---	---
1980	---PPPPP----	MANUAL	794 APR 18		22 AUG 14		---	---	---	---	---	---
1982	---PPP------	MANUAL	396 APR 19		19 JUN 9		---	---	---	---	---	---
1984	---PPPP-----	MANUAL	340 APR 6		42 MAY 1		---	---	---	---	---	---
1985	---P--------	MANUAL	664 APR 16		357 APR 18		---	---	---	---	---	---
1988	---P--------	MANUAL	395 APR 13		240 APR 19		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

CARROT RIVER NEAR KINISTINO - STATION NO. 05KA001

LOCATION: LAT 52 56 55 N LONG 105 00 18 W
DRAINAGE AREA: 1 170 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1972	---P--------	MANUAL	78 APR 26	*	74 APR 26	*	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

CARROT RIVER NEAR SMOKY BURN - STATION NO. 05KC001

LOCATION: LAT 53 25 00 N LONG 103 08 30 W
DRAINAGE AREA: 9 250 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1972	---CC-------	MANUAL	500 APR 25		5 APR 1	*	30 600 APR 25		247 000	---	---	---
1973	--------PP--	MANUAL	48 OCT 31		46 SEP 28		--- ---		---	---	---	---
1974	-P-CPP-P----	MANUAL	539 APR 23		28 AUG 27		36 700 APR 23	*	211 000	---	---	---
1975	--CCCCCCCC--		1 230 JUN 28		5 MAR 26		11 200 MAY 2		179 000	732	732	---
1976	--CCCCCCCC--		2 090 APR 10	*	10 MAR 1		26 100 APR 11		140 000	571	651	12.3
1977	--CCCCCCCCP-		1 100 MAY 29		8 MAY 11		3 660 MAY 29		25 600	104	469	40.1
1978	--CCCCCCCC--		1 800 APR 20		8 AUG 11		33 100 APR 20		280 000	1 140	638	33.7
1979	--CCP-PP----	MANUAL	730 APR 23		15 AUG 8		23 500 APR 27		287 000	* ---	---	---
1982	---PP-P--P--P--	MANUAL	1 960 APR 19		9 OCT 1		--- ---		---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

CONNELL CREEK NEAR CONNELL CREEK - STATION NO. 05KC002

LOCATION: LAT 53 13 13 N LONG 103 25 30 W
DRAINAGE AREA: 354 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1977	----P-------	MANUAL	71 MAY 3		71 MAY 3		--- ---		---	---	---	---
1979	---PP-------	MANUAL	914 APR 29		56 APR 18		--- ---		---	---	---	---
1980	---PPPP-P---	MANUAL	320 APR 16		47 SEP 4		--- ---		---	---	---	---
1981	---P--------	MANUAL	54 APR 23		28 APR 9		--- ---		---	---	---	---
1985	---PPPPPPP--	MANUAL	1 360 APR 22	*	8 OCT 30	*	--- ---		---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

COTTONWOOD CREEK NEAR LUMSDEN - STATION NO. 05JF011

LOCATION: LAT 50 35 26 N LONG 104 54 31 W
DRAINAGE AREA: 615 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : APR-APR MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1982	---CPP------	MANUAL	385 APR 17	*	0 APR 1	*	1 570 APR 17	*	8 060	* 420	420	---
1983	---C--------	MANUAL	63 APR 10		20 APR 1		11.4APR 7		66.7	2.47	211	98.8
1985	--PP--------	MANUAL	171 APR 1		136 MAR 20		--- ---		---	---	---	---
1986	--PPP-------	MANUAL	115 MAY 13		11 MAR 26		--- ---		---	---	---	---
1987	--PP--------	MANUAL	332 MAR 20		32 MAR 31		--- ---		---	---	---	---
1989	---P--------	MANUAL	62 APR 1		25 APR 2		--- ---		---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

CUTARM CREEK NEAR SPY HILL - STATION NO. 05JM015

LOCATION: LAT 50 35 27 N LONG 101 44 34 W
DRAINAGE AREA: 766 km²
TYPE OF FLOW: REGULATED SINCE 1967
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1971	---P---------	MANUAL	88 APR 27		88 APR 27		---	---	---	---	---	---
1973	--PP---------	MANUAL	26 APR 12		6 MAR 29	*	---	---	---	---	---	---
1974	--CCCP-------	MANUAL	424 APR 19	*	10 MAR 1		429 APR 19	*	1 600 *	---	---	---
1975	---PP--PPP---	MANUAL	210 APR 19		11 OCT 29		---	---	---	---	---	---
1976	---P-P-------	MANUAL	139 APR 6		22 JUN 22		---	---	---	---	---	---
1977	---PPPPPPP---	MANUAL	57 OCT 4		14 APR 13		---	---	---	---	---	---
1978	--PP-PPP-P---	MANUAL	160 MAR 26		14 OCT 4		---	---	---	---	---	---
1979	---PPP-------	MANUAL	190 APR 22		19 JUN 4		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

CYPRESS LAKE WEST INFLOW CANAL - STATION NO. 11AB078

LOCATION: LAT 49 28 18 N LONG 109 37 08 W
DRAINAGE AREA:
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1979	----P--------	MANUAL	33 MAY 2	*	33 MAY 2	*	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

CYPRESS LAKE WEST OUTFLOW CANAL - STATION NO. 11AB077

LOCATION: LAT 49 28 14 N LONG 109 35 18 W
DRAINAGE AREA:
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1979	----P--------	MANUAL	4 MAY 2	*	4 MAY 2	*	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

DOGHIDE RIVER BELOW TISDALE - STATION NO. 05KB009

LOCATION: LAT 52 52 23 N LONG 104 02 17 W
DRAINAGE AREA: 396 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1974	---P---------	MANUAL	224 APR 20		41 APR 24		---	---	---	---	---	---
1975	---PP--------	MANUAL	269 APR 21		31 MAY 2		---	---	---	---	---	---
1976	---PP--------	MANUAL	857 APR 5	*	21 APR 23	*	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

DOGHIDE RIVER NEAR RUNCIMAN - STATION NO. 05KB011

LOCATION: LAT 52 58 15 N LONG 104 04 55 W
DRAINAGE AREA: 440 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1977	---P---------	MANUAL	448 APR 12		13 APR 22		---	---	---	---	---	---
1979	--CCP-------	MANUAL	528 APR 22		0 MAR 1	*	2 070 APR 25	*	13 800 *	---	---	---
1980	---CC---------	MANUAL	868 APR 15	*	0 MAR 1		1 930 APR 16		5 810	---	---	---
1981	--CC---------	MANUAL	91 MAR 18		0 MAR 1		10.2 APR 1		84.5	---	---	---
1982	---PPP-------	MANUAL	360 APR 19		5 MAY 10		---	---	---	---	---	---
1983	---PP--------	MANUAL	305 APR 21		6 MAY 17		---	---	---	---	---	---
1984	---PPP-------	MANUAL	173 APR 4		5 APR 26		---	---	---	---	---	---
1985	---------P---	MANUAL	6 OCT 31		6 OCT 31		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

EAGLE CREEK NEAR ENVIRON - STATION NO. 05GC006

LOCATION: LAT 52 13 50 N LONG 107 22 40 W
DRAINAGE AREA: 11 900 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1975	----P---P---	MANUAL	40 MAY 28		6 SEP 23		---	---	---	---	---	---
1976	---CPPPPP---	MANUAL	1 170 APR 9	*	2 JUN 23	*	2 640 APR 9	*	10 000 *	---	---	---
1977	---PPP-------	MANUAL	15 APR 27		3 JUN 22		---	---	---	---	---	---
1978	--PPPP-------	MANUAL	117 APR 12		10 JUN 30		---	---	---	---	---	---
1979	---PPP-------	MANUAL	134 APR 25		19 MAY 15		---	---	---	---	---	---
1980	---PP--------	MANUAL	123 APR 3		9 MAY 8		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

EKAPO CREEK NEAR MARIEVAL - STATION NO. 05JM010

LOCATION: LAT 50 31 47 N LONG 102 42 37 W
DRAINAGE AREA: 1 100 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1973	--PP---------	MANUAL	467 MAR 22		40 MAR 15		---	---	---	---	---	---
1974	--CCCC------	MANUAL	581 APR 17		0 MAR 1	*	861 APR 18		3 270	---	---	---
1975	---P---------	MANUAL	348 APR 18		125 APR 25		---	---	---	---	---	---
1976	---CP--------	MANUAL	513 APR 9		0 APR 1		1 980 APR 9		9 700 *	---	---	---
1977	----P--------	MANUAL	138 MAY 10		138 MAY 10		---	---	---	---	---	---
1978	--PP---------	MANUAL	246 MAR 29		7 APR 13		---	---	---	---	---	---
1979	---PPP-------	MANUAL	923 APR 23	*	14 JUN 5		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ELBOW DIVERSION CANAL AT DROP STRUCTURE - STATION NO. 05JG006

LOCATION: LAT 50 58 40 N LONG 106 23 55 W
DRAINAGE AREA:
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1988	-----P------	MANUAL	50 JUN 7 *	19 JUN 7 *	--- ---	---	---	---	---
1989	----P-------	MANUAL	44 MAY 2	44 MAY 2	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ETOMAMI RIVER NEAR BERTWELL - STATION NO. 05LB002

LOCATION: LAT 52 35 32 N LONG 102 33 54 W
DRAINAGE AREA: 2 050 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1984	---PPPPPP---	MANUAL	113 APR 3	6 JUL 31	--- ---	---	---	---	---
1985	---PPPPP-P--	MANUAL	528 APR 10 *	5 JUN 25	--- ---	---	---	---	---
1986	---P--P-----	MANUAL	172 APR 8	4 JUL 2 *	--- ---	---	---	---	---
1987	---P--------	MANUAL	153 APR 9	143 APR 7	--- ---	---	---	---	---
1988	---PPPPP----	MANUAL	279 APR 13	7 JUN 20	--- ---	---	---	---	---
1989	---P-P------	MANUAL	29 JUN 28	12 APR 11	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

FLOWING WELL WEST INFLOW NEAR FLOWING WELL - STATION NO. 05JC007

LOCATION: LAT 50 15 04 N LONG 106 56 46 W
DRAINAGE AREA: 91.9 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1987	--PP--------	MANUAL	61 MAR 5	1 MAR 17 *	--- ---	---	---	---	---
1989	--PP--------	MANUAL	110 MAR 10 *	2 APR 12	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY - STATION NO. 11AC041

LOCATION: LAT 49 00 00 N LONG 107 18 06 W
DRAINAGE AREA: 5 510 km²
TYPE OF FLOW: REGULATED SINCE 1937
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	SUMMARY : MAR-OCT HISTORICAL MEAN LOAD (TONNES)	SUMMARY : MAR-OCT STANDARD ERROR OF MEAN %
1971	---P-----P--	MANUAL	343 APR 7	17 OCT 28	--- ---	---	---	---	---
1972	---CCCCCCC--	MANUAL	876 JUN 10	0 SEP 9 *	247 JUN 10	3 500	---	---	---
1973	--CCCC--P---		329 MAR 6	30 MAR 1	140 MAR 9	1 710	---	---	---
1974	--CCCCCCCC--		1 440 AUG 15	0 SEP 6	2 520 APR 2	32 600	150	150	---
1975	--CCCCCCC--		3 720 MAY 6 *	35 SEP 30	11 000 MAY 6 *	54 400 *	222	186	19.5
1976	--CCCCCCCCP-		919 JUL 12	0 SEP 13	1 870 MAR 21	20 100	97.8	156	23.0
1977	--CCCPPP----		236 APR 10	7 MAR 26	38.9APR 10	505	---	---	---
1978	--PPPP-P----	MANUAL	908 APR 1	39 JUN 20	--- ---	---	---	---	---
1985	--PPPPP-----	MANUAL	2 530 MAR 19	4 JUL 3	--- ---	---	---	---	---
1986	--PP-PP-----	MANUAL	910 MAR 5	6 JUL 8	--- ---	---	---	---	---
1987	--PP--------	MANUAL	713 MAR 7	142 APR 9	--- ---	---	---	---	---
1989	--P---------	MANUAL	1 120 MAR 29	1 110 MAR 29	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

FRENCHMAN RIVER BELOW VAL MARIE - STATION NO. 11AC051

LOCATION: LAT 49 11 40 N LONG 107 41 12 W
DRAINAGE AREA: 4 470 km²
TYPE OF FLOW: REGULATED SINCE 1937
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1972	--------PP--	MANUAL	51 SEP 6 *	35 OCT 4 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

GAINSBOROUGH CREEK NEAR STORTHOAKS - STATION NO. 05NF013

LOCATION: LAT 49 24 51 N LONG 101 31 36 W
DRAINAGE AREA: 712 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1974	---P--------	MANUAL	118 APR 18	20 APR 25 *	--- ---	---	---	---	---
1976	---P--------	MANUAL	838 APR 10 *	838 APR 10	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

GAP CREEK ABOVE JUNCTION RESERVOIR - STATION NO. 05HA072

LOCATION: LAT 49 54 08 N LONG 109 34 41 W
DRAINAGE AREA: 562 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1972	---P--------	MANUAL	57 APR 5 *	21 APR 5 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

GOOSEHUNTING CREEK NEAR BEATTY - STATION NO. 05KA009

LOCATION: LAT 52 54 28 N LONG 104 50 18 W
DRAINAGE AREA: 510 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1972	---P--------	MANUAL	53 APR 26 *	49 APR 26 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

HAULTAIN RIVER ABOVE NORBERT RIVER - STATION NO. 06BD001

LOCATION: LAT 56 14 40 N LONG 106 33 40 W
DRAINAGE AREA: 3 680 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1983	----P--P----	MANUAL	3 AUG 10 *	1 MAY 12 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

INDIANHEAD CREEK NEAR INDIAN HEAD - STATION NO. 05JL002

LOCATION: LAT 50 38 42 N LONG 103 36 14 W
DRAINAGE AREA: 327 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1970	---PP-------	MANUAL	1 010 APR 7	18 APR 15	--- ---	---	---	---	---
1971	---P--------	MANUAL	149 APR 12	7 APR 26	--- ---	---	---	---	---
1973	--P---------	MANUAL	31 MAR 13	31 MAR 13	--- ---	---	---	---	---
1974	---PP-------	MANUAL	1 510 APR 20	6 MAY 13 *	--- ---	---	---	---	---
1975	---P--------	MANUAL	527 APR 18	186 APR 25	--- ---	---	---	---	---
1976	---P--------	MANUAL	575 APR 5	7 APR 29	--- ---	---	---	---	---
1978	--PP--------	MANUAL	325 MAR 29	47 APR 5	--- ---	---	---	---	---
1979	---PP-------	MANUAL	1 590 APR 20 *	24 MAY 2	--- ---	---	---	---	---
1980	--PP--------	MANUAL	571 APR 2	43 APR 12	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

JEWEL CREEK NEAR GOODWATER - STATION NO. 05NB014

LOCATION: LAT 49 23 10 N LONG 103 42 42 W
DRAINAGE AREA: 209 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	SUMMARY : MAR-OCT HISTORICAL MEAN LOAD (TONNES)	SUMMARY : MAR-OCT STANDARD ERROR OF MEAN %
1974	--CCCC------	MANUAL	136 APR 17	0 MAR 1 *	363 APR 17	979	---	---	---
1975	--CCCCCCCC--	MANUAL	98 APR 21	0 MAR 1	191 APR 21	729	19.2	19.2	---
1976	--CCCCCCCC--	MANUAL	215 APR 3 *	0 MAR 1	472 APR 3 *	1 440 *	21.2	20.2	5.1
1978	--PP--P------	MANUAL	95 MAR 29	13 APR 4	--- ---	---	---	---	---
1979	---PP-------	MANUAL	151 APR 20	10 MAY 1	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

JUMPING DEER CREEK NEAR LIPTON - STATION NO. 05JK004

LOCATION: LAT 50 55 10 N LONG 103 53 57 W
DRAINAGE AREA: 1 680 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1970	---P---------	MANUAL	26 APR 7	9 APR 13	--- ---	---	---	---	---
1973	--P----------	MANUAL	6 MAR 21	6 MAR 21	--- ---	---	---	---	---
1974	---PPPP------	MANUAL	99 JUL 24	2 MAY 1 *	--- ---	---	---	---	---
1975	---P---------	MANUAL	28 APR 17	10 APR 24	--- ---	---	---	---	---
1976	---C-P-------	MANUAL	111 JUN 29	4 APR 1	25.4APR 9 *	141 *	---	---	---
1977	---PP--------	MANUAL	220 MAY 11 *	17 APR 12	--- ---	---	---	---	---
1978	----P--------	MANUAL	161 MAY 8	161 MAY 8	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

LEATHER RIVER BELOW PRESBYTERIAN RIVER - STATION NO. 05KB010

LOCATION: LAT 53 02 26 N LONG 104 01 33 W
DRAINAGE AREA: 1 340 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1976	---P---------	MANUAL	626 APR 6 *	32 APR 23 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

LEATHER RIVER NEAR STAR CITY - STATION NO. 05KB006

LOCATION: LAT 52 50 32 N LONG 104 14 24 W
DRAINAGE AREA: 165 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1972	---P--------	MANUAL	68 APR 26		67 APR 26		---	---	---	---	---	---
1974	---P--------	MANUAL	270 APR 20	*	25 APR 24		---	---	---	---	---	---
1975	---PP-------	MANUAL	70 APR 29		10 MAY 2		---	---	---	---	---	---
1976	---C--------	MANUAL	165 APR 6		2 APR 1	*	36.0	APR 8	192	---	---	---
1977	---P--------	MANUAL	50 APR 13		28 APR 11		---	---	---	---	---	---
1978	---P--------	MANUAL	51 APR 19		17 APR 24		---	---	---	---	---	---
1979	---P--------	MANUAL	74 APR 25		14 APR 30		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING
C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

LONG CREEK AT WESTERN CROSSING OF INTERNATIONAL BOUNDARY - STATION NO. 05NA003

LOCATION: LAT 49 00 01 N LONG 103 21 08 W
DRAINAGE AREA: 3 210 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	--CCCC------	MANUAL	251 APR 11	*	0 MAR 1	*	841	APR 11	6 130	* ---	---	---
1975	---P-PP--P--	MANUAL	105 APR 25		12 OCT 30		---	---	---	---	---	---
1976	---P-PP-----	MANUAL	207 JUN 15		15 JUN 1		---	---	---	---	---	---
1977	--PPP-------	MANUAL	40 MAR 14		9 APR 5		---	---	---	---	---	---
1978	--PPPPP--P--	MANUAL	76 MAR 30		6 JUL 19		---	---	---	---	---	---
1979	---PP-------	MANUAL	163 APR 22		11 MAY 30		---	---	---	---	---	---
1981	-P----------	MANUAL	96 FEB 20		96 FEB 20		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING
C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

LONG CREEK NEAR MAXIM - STATION NO. 05NA004

LOCATION: LAT 49 15 32 N LONG 103 57 22 W
DRAINAGE AREA: 1 790 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1975	---PPP------	MANUAL	132 APR 20		6 JUN 6		---	---	---	---	---	---
1976	--PPPPP-----	MANUAL	86 JUN 15		3 MAY 4		---	---	---	---	---	---
1978	--PP-PP--P--	MANUAL	228 JUN 26	*	1 JUL 11	*	---	---	---	---	---	---
1979	---PP-------	MANUAL	122 APR 21		2 MAY 30		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING
P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MCDONALD CREEK NEAR MCCORD - STATION NO. 05JA003

LOCATION: LAT 49 26 14 N LONG 106 50 05 W
DRAINAGE AREA: 759 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1982	-PPP--------	MANUAL	181	APR 13	25	MAR 23	---	---	---	---	---	---
1983	------P-----	MANUAL	56	JUL 11	56	JUL 11	---	---	---	---	---	---
1986	-P----------	MANUAL	205	FEB 28 *	205	FEB 28	---	---	---	---	---	---
1989	--PPPP------	MANUAL	202	MAR 10	2	MAY 30 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MELFORT CREEK NEAR MELFORT - STATION NO. 05KB001

LOCATION: LAT 52 50 29 N LONG 104 32 26 W
DRAINAGE AREA: 417 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : APR-APR MEAN LOAD (TONNES)	SUMMARY : APR-APR HISTORICAL MEAN LOAD (TONNES)	SUMMARY : APR-APR STANDARD ERROR OF MEAN %
1972	---P--------	MANUAL	40	APR 27	36	APR 27	---	---	---	---	---	---
1974	---P--------	MANUAL	159	APR 20 *	159	APR 20	---	---	---	---	---	---
1975	---PP-------	MANUAL	73	APR 29	27	MAY 5	---	---	---	---	---	---
1976	---PP-------	MANUAL	60	APR 6	6	MAY 21 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MOOSE JAW RIVER ABOVE THUNDER CREEK - STATION NO. 05JE001

LOCATION: LAT 50 20 46 N LONG 105 31 49 W
DRAINAGE AREA: 5 250 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1969	---P--------	MANUAL	231	APR 18	231	APR 18	---	---	---	---	---	---
1970	---P--------	MANUAL	531	APR 13 *	76	APR 3	---	---	---	---	---	---
1972	--PP--PPPPP-	MANUAL	398	MAR 26	10	NOV 2 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MOOSE JAW RIVER NEAR BURDICK - STATION NO. 05JE006

LOCATION: LAT 50 24 00 N LONG 105 23 50 W
DRAINAGE AREA: 9 230 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	SUMMARY : MAR-OCT HISTORICAL MEAN LOAD (TONNES)	SUMMARY : MAR-OCT STANDARD ERROR OF MEAN %
1972	--PP--PPPPP-	MANUAL	394 MAR 28	9 SEP 5	--- ---	---	---	---	---
1973	--CCCCCCCC--	MANUAL	50 JUN 17	5 SEP 6 *	5.0 JUN 4	101	0.411	0.411	---
1974	--CCCCCCCCP-		819 APR 19	10 MAR 1	22 400 APR 20 *	178 000 *	726	363	99.9
1975	--CCCCCCCC--		697 APR 23	18 SEP 2	5 060 APR 23	62 500	255	327	64.9
1976	--CCCCCCCC--		577 JUN 22	27 AUG 24	6 330 APR 7	111 000	455	359	42.8
1977	--CCCCCCCCP-		356 MAY 28	18 SEP 9	384 MAY 28	1 330	5.40	288	48.0
1978	--PCCPPPPP--		314 APR 8	16 MAY 30	426 APR 7	3 360	---	---	---
1979	--PCCCCCPPP-		1 210 JUL 12 *	22 APR 3	6 060 APR 25	58 000	---	---	---
1980	--PCPPP-----	MANUAL	254 APR 14	20 MAR 26	90.1 APR 11	1 050	---	---	---
1982	--PCCPPP----	MANUAL	829 APR 18	14 JUN 23	9 310 APR 18	79 000	---	---	---
1983	--PCP-------	MANUAL	382 APR 10	50 MAY 24	1 840 APR 10	20 900	---	---	---
1984	--P---------	MANUAL	31 MAR 24	31 MAR 24	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MOOSE JAW RIVER NEAR ROULEAU - STATION NO. 05JE004

LOCATION: LAT 50 11 29 N LONG 104 59 08 W
DRAINAGE AREA: 2 990 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1973	---P--------	MANUAL	47 APR 6 *	47 APR 6 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MOOSE MOUNTAIN CREEK NEAR OXBOW - STATION NO. 05ND004

LOCATION: LAT 49 13 58 N LONG 102 13 41 W
DRAINAGE AREA: 6 060 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1974	--CCPPPPP---	MANUAL	358 APR 17	0 MAR 1 *	3 450 APR 18	9 760	---	---	---
1975	--CCPPPPPP--	MANUAL	203 APR 29	0 MAR 1	1 330 APR 29	5 690	---	---	---
1976	--PCPPP-PP--	MANUAL	506 APR 9 *	6 MAY 4	7 910 APR 9 *	23 100 *	---	---	---
1977	---PPP----P-	MANUAL	25 MAY 17	6 NOV 8	--- ---	---	---	---	---
1978	--PPPPP---P--	MANUAL	33 APR 1	1 MAY 16	--- ---	---	---	---	---
1979	---PP-PP----	MANUAL	228 APR 21	2 MAY 30	--- ---	---	---	---	---
1980	---P--------	MANUAL	57 APR 2	5 APR 28	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MUDJATIK RIVER NEAR PORCIER LAKE - STATION NO. 06BC001

LOCATION: LAT 56 05 30 N LONG 107 35 30 W
DRAINAGE AREA: 5 940 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1981	----P-P--P--	MANUAL	24 MAY 5	2 OCT 16 *	--- ---	---	---	---	---
1982	----P--P-P--	MANUAL	26 MAY 8 *	7 AUG 18	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

NASHLYN CANAL NEAR CONSUL - STATION NO. 11AB018

LOCATION: LAT 49 13 57 N LONG 109 33 27 W
DRAINAGE AREA:
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1979	----P-------	MANUAL	20 MAY 1 *	20 MAY 1 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

NORTH SASKATCHEWAN RIVER AT PRINCE ALBERT - STATION NO. 05GG001

LOCATION: LAT 53 12 10 N LONG 105 46 06 W
DRAINAGE AREA: 131 000 km²
TYPE OF FLOW: REGULATED SINCE 1962
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : JAN-DEC MEAN LOAD (TONNES)	SUMMARY : JAN-DEC HISTORICAL MEAN LOAD (TONNES)	SUMMARY : JAN-DEC STANDARD ERROR OF MEAN %
1958	---PCCCCCP--	MANUAL	2 950 JUL 8	37 SEP 20	289 000 JUL 8	3 200 000	---	---	---
1962	---PCCCCCCCC	MANUAL	864 AUG 16	9 DEC 12	41 500 AUG 16	1 610 000	---	---	---
1963	CCCCCCCCCCCC	MANUAL	1 430 APR 20	4 MAR 18	98 800 APR 22	2 580 000	7 060	7 060	---
1964	CCCCCCCCCCCC	MANUAL	1 740 MAY 16	0 MAR 31 *	126 000 MAY 14	3 020 000	8 250	7 650	7.8
1965	CCCCCCCCCCCC	MANUAL	2 420 JUN 28	5 FEB 2	349 000 JUL 5	9 300 000 *	25 500	13 600	43.8
1966	CCCCCCCCCCCC	MANUAL	2 400 JUL 14	0 MAR 17	229 000 JUL 13	2 810 000	7 700	12 100	36.8
1967	CCCCCCCCCCCC	MANUAL	895 JUN 26	0 NOV 21	60 900 JUN 26	1 660 000	4 550	10 600	35.5
1968	CCCCCCCCCCCC	MANUAL	545 JUN 22	0 DEC 5	22 100 JUN 21	851 000	2 330	9 230	36.6
1969	CCCCCCCCCCCC	MANUAL	2 440 APR 15	3 MAR 31	245 000 JUL 14	4 080 000	11 200	9 510	30.1
1970	CCCCCCCCCCCC	MANUAL	2 750 JUN 26	1 APR 3	186 000 JUN 26	2 350 000	6 450	9 120	27.5
1971	CCCCCCCCCCCC	MANUAL	3 030 MAY 26	3 APR 6	160 000 APR 24	3 730 000	10 200	9 250	24.0
1972	CCCCCCCCCCCC	MANUAL	2 530 JUL 2	0 MAR 30	485 000 JUL 2	4 520 000	12 300	9 560	21.0
1973	CCCCCCCCCCCC	MANUAL	3 440 MAY 24 *	8 MAR 28	32 600 JUL 13	1 310 000	3 600	9 010	21.0
1974	CCCCCCCCCCCC	MANUAL	3 050 APR 23	5 NOV 30	1 020 000 APR 23 *	7 320 000	20 000	9 930	19.7
1975	CCCCCCCCCCCC	MANUAL	528 MAY 15	3 APR 3	32 500 MAY 1	706 000	1 930	9 320	20.4
1976	P-PPPPPPPPP-P	MANUAL	269 APR 22	9 MAR 22	--- ---	---	---	---	---
1977	CCCCCCCCCCCC	MANUAL	926 JUN 7	9 JAN 14	67 200 JUN 6	1 010 000	2 750	8 850	20.6
1978	CCCCCCCCCCCC	MANUAL	688 JUL 21	14 NOV 14	43 000 JUL 20	1 190 000	3 270	8 480	20.5
1979	-PP-PCCCCC-P	MANUAL	333 MAY 1	4 DEC 18	15 800 MAY 11	231 000	---	---	---
1980	PPPPCCCCCC-P	MANUAL	1 530 JUN 13	9 DEC 16	189 000 JUN 13	2 270 000	---	---	---
1981	P--PCCCCCC--	MANUAL	1 460 JUL 25	11 JAN 5	81 400 AUG 2	1 600 000	---	---	---
1982	----CCCCCC--	MANUAL	1 170 JUL 12	25 OCT 21	168 000 JUL 13	2 070 000	---	---	---
1983	----CCCCCCP-	MANUAL	501 JUL 14	10 NOV 3	24 400 JUL 14	557 000	---	---	---
1984	---CCCCCCC--	MANUAL	587 APR 7	24 SEP 5	34 500 APR 8	384 000	---	---	---
1985	----PCCCCC--	MANUAL	444 SEP 23	22 SEP 19	18 800 SEP 23	251 000	---	---	---
1986	---PCCCCCC--	MANUAL	2 370 JUL 24	39 SEP 9	567 000 JUL 24	3 100 000	---	---	---
1987	---PCCCCCC--	MANUAL	987 APR 16	14 OCT 27	45 400 APR 16	494 000	---	---	---
1988	--CCCCCCCC--	MANUAL	357 APR 15	7 MAR 1	14 000 APR 18	275 000	---	---	---
1989	----CCCCCC--	MANUAL	574 AUG 13	22 OCT 16	36 500 AUG 13	833 000	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

NORTH SASKATCHEWAN RIVER NEAR BORDEN - STATION NO. 05GD001

LOCATION: LAT 52 22 23 N LONG 107 08 58 W
DRAINAGE AREA: 119 000 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1955	---PCCCCCP--	MANUAL	1 160 JUN 21 *		32 SEP 25 *		76 400 JUN 21 *		220 000	---	---	---
1956	---PCCCCCC--	MANUAL	1 060 JUN 12		41 OCT 1		32 900 JUN 14		315 000 *	---	---	---
1957	----CCCCCP--	MANUAL	565 MAY 27		44 JUL 29		33 900 MAY 27		242 000	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

OVERFLOWING RIVER NEAR HUDSON BAY - STATION NO. 05LD003

LOCATION: LAT 53 01 51 N LONG 102 18 58 W
DRAINAGE AREA: 350 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1984	---PPP-PP---	MANUAL	17 APR 26		3 SEP 27		---	---	---	---	---	---
1985	---PPPPP-P--	MANUAL	41 APR 16 *		1 JUL 31 *		---	---	---	---	---	---
1986	---PP-P-----	MANUAL	7 MAY 21		4 JUL 3		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

PHEASANT CREEK NEAR ABERNETHY - STATION NO. 05JL005

LOCATION: LAT 50 44 00 N LONG 103 19 41 W
DRAINAGE AREA: 1 150 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1970	---P---------	MANUAL	61 APR 7		13 APR 14		---	---	---	---	---	---
1971	---P---------	MANUAL	95 APR 11		13 APR 26		---	---	---	---	---	---
1973	--P----------	MANUAL	57 MAR 13		12 MAR 19		---	---	---	---	---	---
1974	---PPP-------	MANUAL	151 APR 19 *		3 MAY 14 *		---	---	---	---	---	---
1975	---P---------	MANUAL	136 APR 30		136 APR 30		---	---	---	---	---	---
1976	---P-P-------	MANUAL	88 APR 7		12 JUN 29		---	---	---	---	---	---
1977	----P--------	MANUAL	79 MAY 11		79 MAY 11		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

PINTO CREEK NEAR WOODROW - STATION NO. 05JA004

LOCATION: LAT 49 39 53 N LONG 106 43 30 W
DRAINAGE AREA: 1 870 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1982	--CC--------	MANUAL	170 APR 2 *	0 MAR 1 *	367 APR 2 *	2 560 *	---	---	---
1983	---P--------	MANUAL	94 APR 5	27 APR 12	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

PIPESTONE CREEK NEAR MOOSOMIN - STATION NO. 05NE001

LOCATION: LAT 50 02 40 N LONG 101 40 33 W
DRAINAGE AREA: 3 650 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1973	--P---------	MANUAL	73 MAR 22 *	64 MAR 7 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

PRESBYTERIAN RIVER ABOVE LEATHER RIVER - STATION NO. 05KB013

LOCATION: LAT 53 01 00 N LONG 104 01 12 W
DRAINAGE AREA:
TYPE OF FLOW: NATURAL
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1972	---P--------	MANUAL	276 APR 27	246 APR 27	--- ---	---	---	---	---
1976	---P--------	MANUAL	469 APR 6 *	26 APR 23 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

QU'APPELLE RIVER ABOVE BUFFALO POUND LAKE - STATION NO. 05JG004

LOCATION: LAT 50 47 00 N LONG 105 49 31 W
DRAINAGE AREA: 2 630 km²
TYPE OF FLOW: REGULATED SINCE 1958
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1972	--PP--P-PPP-	MANUAL	71 NOV 2	14 APR 11 *	--- ---	---	---	---	---
1988	-----P------	MANUAL	497 JUN 8	455 JUN 8	--- ---	---	---	---	---
1989	----PPPP-P--	MANUAL	809 MAY 2 *	63 OCT 3	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

QU'APPELLE RIVER AT TANTALLON - STATION NO. 05JM003

LOCATION: LAT 50 31 58 N LONG 101 50 30 W
DRAINAGE AREA: 49 200 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1974	--PPPPP-----	MANUAL	63 MAY 22 *	17 MAR 13 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

QU'APPELLE RIVER BELOW LOON CREEK - STATION NO. 05JK007

LOCATION: LAT 50 47 11 N LONG 104 17 21 W
DRAINAGE AREA: 36 500 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1987	---PPPP-P---	MANUAL	786 APR 6 *	48 SEP 14	--- ---	---	---	---	---
1988	---PPPPPPP--	MANUAL	208 AUG 3	32 OCT 5	--- ---	---	---	---	---
1989	---PPPPPPP--	MANUAL	295 JUN 28	20 OCT 17 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

QU'APPELLE RIVER NEAR EYEBROW LAKE - STATION NO. 05JG901

LOCATION: LAT 50 58 50 N LONG 106 14 14 W
DRAINAGE AREA:
TYPE OF FLOW: REGULATED
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1988	-----P------	MANUAL	89 JUN 7 *	89 JUN 7 *	--- ---	---	---	---	---
1989	----PPPP-P--	MANUAL	250 MAY 2 *	9 AUG 22 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

QU'APPELLE RIVER NEAR LUMSDEN - STATION NO. 05JF001

LOCATION: LAT 50 39 16 N LONG 104 51 06 W
DRAINAGE AREA: 18 300 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1969	---P--------	MANUAL	704	APR 20	334	APR 19	---	---	---	---	---	---
1970	---P--------	MANUAL	442	APR 11	312	APR 22	---	---	---	---	---	---
1974	---PPPPPPPP-	MANUAL	583	APR 25	26	AUG 22	---	---	---	---	---	---
1975	---PPP-P----	MANUAL	699	APR 24	115	JUN 5	---	---	---	---	---	---
1976	---CPP---P--	MANUAL	821	APR 5	44	OCT 27	9 140	APR 6	160 000 *	---	---	---
1977	---PPPPPP-P-	MANUAL	161	JUL 14	23	APR 20	---	---	---	---	---	---
1978	--PPPPPPPP--	MANUAL	456	APR 11	18	OCT 19 *	---	---	---	---	---	---
1979	---CCPPPPPP-	MANUAL	939	APR 28 *	20	APR 1	7 630	APR 28	105 000	---	---	---
1980	---CPPPPPP--	MANUAL	343	APR 15	25	MAY 14	680	APR 10	5 780	---	---	---
1981	---CCCPPPP--	MANUAL	174	JUL 15	53	OCT 29	156	JUL 15	4 920	---	---	---
1982	---PCPPPPP--	MANUAL	761	APR 21	22	OCT 26	13 800	APR 21	138 000	---	---	---
1989	-----PPP-P--	MANUAL	206	AUG 3	27	OCT 5	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

QU'APPELLE RIVER NEAR WELBY - STATION NO. 05JM001

LOCATION: LAT 50 29 28 N LONG 101 33 28 W
DRAINAGE AREA: 50 900 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1975	----PP-PPPP-	MANUAL	174	AUG 13	35	JUN 10	---	---	---	---	---	---
1976	---PPP-PP---	MANUAL	648	APR 11 *	44	MAY 26	---	---	---	---	---	---
1977	----PPPPPP--	MANUAL	214	MAY 24	43	SEP 6	---	---	---	---	---	---
1978	---PPPPP-PP-	MANUAL	515	JUN 1	30	OCT 18	---	---	---	---	---	---
1979	---PPPPPP-P-	MANUAL	305	APR 26	49	JUL 31	---	---	---	---	---	---
1980	---PP--------	MANUAL	389	APR 17	106	MAY 28	---	---	---	---	---	---
1981	----P--------	MANUAL	68	MAY 11	53	MAY 25	---	---	---	---	---	---
1982	---PPPPPP----	MANUAL	326	APR 28	53	JUL 20	---	---	---	---	---	---
1983	---PPPPPPPP-	MANUAL	510	APR 21	30	OCT 11	---	---	---	---	---	---
1984	---PPPPP-----	MANUAL	98	JUN 26	22	APR 10 *	---	---	---	---	---	---
1985	---PPPPPPPP-	MANUAL	359	APR 3	39	MAY 21	---	---	---	---	---	---
1986	--PPPPPP----	MANUAL	337	APR 2	46	MAR 26	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

RED DEER RIVER NEAR ERWOOD - STATION NO. 05LC001

LOCATION: LAT 52 51 36 N LONG 102 11 39 W
DRAINAGE AREA: 11 000 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1980	---PPPP-PPP-	MANUAL	198	APR 15	1	OCT 8 *	---	---	---	---	---	---
1981	---PPPPPP---	MANUAL	19	APR 22	1	SEP 30	---	---	---	---	---	---
1982	---PPPP--P--	MANUAL	100	APR 20	4	JUN 23	---	---	---	---	---	---
1983	---PPPPP-PP-	MANUAL	583	APR 24 *	2	NOV 1	---	---	---	---	---	---
1984	---PPP-PPP--	MANUAL	102	APR 4	6	SEP 27	---	---	---	---	---	---
1985	---PP--------	MANUAL	251	APR 12	40	MAY 8	---	---	---	---	---	---
1986	---P---------	MANUAL	241	APR 9	241	APR 9	---	---	---	---	---	---
1987	---P---------	MANUAL	223	APR 8	223	APR 8	---	---	---	---	---	---
1988	---P---------	MANUAL	242	APR 14	242	APR 14	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SASKATCHEWAN RIVER ABOVE SIPANOK CHANNEL - STATION NO. 05KD005

LOCATION: LAT 53 42 50 N LONG 103 16 00 W
DRAINAGE AREA: 207 000 km²
TYPE OF FLOW:
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : JUN-JUL MEAN LOAD (TONNES)	SUMMARY : JUN-JUL HISTORICAL MEAN LOAD (TONNES)	SUMMARY : JUN-JUL STANDARD ERROR OF MEAN %
1954	----PCCP----	MANUAL	2 100 JUN 13 *	80 AUG 7	581 000 JUN 13 *	10 600 000 *	131 000	131 000	---
1955	----CCCC----	MANUAL	1 830 JUN 1	50 AUG 7 *	237 000 JUN 1	6 440 000	66 400	98 500	32.6
1956	----PCC-----	MANUAL	1 300 JUN 1	90 JUL 13	185 000 MAY 31	4 030 000	56 600	84 600	27.5

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SASKATCHEWAN RIVER AT NIPAWIN - STATION NO. 05KD001

LOCATION: LAT 53 22 00 N LONG 104 02 20 W
DRAINAGE AREA: 207 000 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAY-SEP MEAN LOAD (TONNES)	SUMMARY : MAY-SEP HISTORICAL MEAN LOAD (TONNES)	SUMMARY : MAY-SEP STANDARD ERROR OF MEAN %
1957	----CCCCCP--	MANUAL	865 MAY 18 *	15 AUG 28 *	91 600 MAY 17 *	2 130 000 *	13 800	13 800	---
1958	---PCCCCCP--	MANUAL	2 160 JUL 9 *	19 SEP 18	300 000 JUL 9 *	5 800 000 *	30 900	22 300	38.3

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SASKATCHEWAN RIVER BELOW CUMBERLAND HOUSE - STATION NO. 05KH010

LOCATION: LAT 53 53 00 N LONG 101 56 00 W
DRAINAGE AREA: 328 000 km²
TYPE OF FLOW:
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1954	-----PCP----	MANUAL	560 JUN 18	60 JUL 8	98 800 JUN 19	2 400 000	---	---	---
1955	----CCCP----	MANUAL	645 MAY 11 *	50 JUN 30 *	101 000 MAY 11 *	3 340 000 *	---	---	---
1956	-----P------	MANUAL	420 JUN 23	95 JUN 21	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SASKATCHEWAN RIVER BELOW TOBIN LAKE - STATION NO. 05KD003

LOCATION: LAT 53 42 10 N LONG 103 17 50 W
DRAINAGE AREA: 289 000 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	TOTAL FOR PERIOD (TONNES)	SUMMARY : APR-SEP MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1965	---------CCC	MANUAL	10 OCT 7	2 DEC 17	950 OCT 8	19 800	---	---	---
1966	CCCCCCCCCCC	MANUAL	17 MAY 4	0 DEC 25 *	1 880 JUN 15	71 200	348	348	---
1967	CCCCCCCCC---	MANUAL	10 SEP 19	3 MAR 16	736 JUN 8	60 200	263	305	13.8
1968	---CCCCCCCCC	MANUAL	23 MAY 15	2 AUG 28	770 APR 23	53 100	240	293	11.6
1969	CCCCCCCCCCC	MANUAL	44 APR 20 *	1 JAN 1	4 850 JUL 7	211 000 *	1 030	469	39.9
1970	CCCCCCCCCCC	MANUAL	21 MAY 20	3 AUG 1	1 470 APR 21	131 000	535	482	30.2
1971	----PP------	MANUAL	12 MAY 19	3 JUN 23	--- ---	---	---	---	---
1974	---P---------	MANUAL	22 APR 25	22 APR 25	--- ---	---	---	---	---
1980	-----P------	MANUAL	7 JUN 11	7 JUN 11	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING
C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SASKATCHEWAN RIVER OLD CHANNEL - STATION NO. 05KH009

LOCATION: LAT 53 48 50 N LONG 102 58 20 W
DRAINAGE AREA:
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1972	-----PPPP---	MANUAL	351 JUN 28 *	12 AUG 29	--- ---	---	---	---	---
1973	----P-PPPP--	MANUAL	51 MAY 2	5 SEP 27	--- ---	---	---	---	---
1974	---PP--P-----	MANUAL	277 APR 30	16 AUG 26	--- ---	---	---	---	---
1975	----P--------	MANUAL	13 MAY 1	13 MAY 1	--- ---	---	---	---	---
1976	---PP--------	MANUAL	5 APR 21	4 MAY 20	--- ---	---	---	---	---
1977	---PPP--PP---	MANUAL	110 OCT 12	3 SEP 8 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING
P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SHORT CREEK NEAR ROCHE PERCEE - STATION NO. 05NB021

LOCATION: LAT 49 01 52 N LONG 102 50 57 W
DRAINAGE AREA: 1 210 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	--CCPP------	MANUAL	418 APR 13	0 MAR 1 *	722 APR 13	4 670	---	---	---
1975	--CCCPP-PP--	MANUAL	415 APR 28	0 MAR 1	743 APR 29	7 030	---	---	---
1976	--PCP-P------	MANUAL	341 MAR 28	10 MAY 31	1 080 MAR 28 *	7 850 *	---	---	---
1977	---PP--------	MANUAL	111 MAY 18	22 APR 5	--- ---	---	---	---	---
1978	--PP-PP------	MANUAL	519 JUN 8 *	18 APR 17	--- ---	---	---	---	---
1979	---PP--------	MANUAL	370 APR 18	21 MAY 30	--- ---	---	---	---	---
1980	--PP---------	MANUAL	136 APR 10	23 APR 4	--- ---	---	---	---	---
1981	-P----------	MANUAL	224 FEB 17	224 FEB 17	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING
C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SOURIS RIVER NEAR GLEN EWEN - STATION NO. 05ND001

LOCATION: LAT 49 11 02 N LONG 102 01 42 W
DRAINAGE AREA: 22 100 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1974	--CCPPPPPP--	MANUAL	192 APR 18	5 MAR 1 *	3 110 APR 19	21 500	---	---	---
1975	--PPPPPPPP--	MANUAL	314 MAR 19 *	21 AUG 28	--- ---	---	---	---	---
1976	--PCPPP-PP--	MANUAL	223 MAR 31	28 JUN 2	3 990 APR 9 *	59 400 *	---	---	---
1977	---PPPP-----	MANUAL	41 MAY 10	13 APR 4	--- ---	---	---	---	---
1978	---PPPPPPP--	MANUAL	211 JUL 12	10 MAY 16	--- ---	---	---	---	---
1979	---PC-PPPP--	MANUAL	210 APR 21	13 AUG 1	3 090 APR 28	50 100	---	---	---
1980	---PP-------	MANUAL	68 MAY 26	17 APR 28	--- ---	---	---	---	---
1981	---P-P------	MANUAL	19 APR 28	6 JUN 2	--- ---	---	---	---	---
1982	---PPPP-PP--	MANUAL	180 APR 16	8 OCT 25	--- ---	---	---	---	---
1983	---PPPPPP---	MANUAL	149 APR 20	10 JUN 29	--- ---	---	---	---	---
1984	--PPPP------	MANUAL	25 MAR 28	9 APR 30	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SOURIS RIVER NEAR HALBRITE - STATION NO. 05NB017

LOCATION: LAT 49 29 37 N LONG 103 39 44 W
DRAINAGE AREA: 3 190 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1975	---CPPP-----	MANUAL	431 APR 30	10 APR 1	3 250 APR 30 *	33 100	---	---	---
1976	--CCPPPPP-P-	MANUAL	714 MAY 3 *	7 NOV 3 *	2 660 APR 21	60 100 *	---	---	---
1977	---PP-------	MANUAL	53 MAY 10	17 APR 14	--- ---	---	---	---	---
1978	--PP-PPP-P--	MANUAL	86 APR 3	17 AUG 1	--- ---	---	---	---	---
1979	---PPPP-----	MANUAL	298 MAY 10	120 JUL 18	--- ---	---	---	---	---
1980	--PP--------	MANUAL	86 APR 8	35 APR 3	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SOUTH SASKATCHEWAN RIVER AT SASKATOON - STATION NO. 05HG001

LOCATION: LAT 52 08 25 N LONG 106 38 36 W
DRAINAGE AREA: 141 000 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : JAN-DEC MEAN LOAD (TONNES)	SUMMARY : JAN-DEC HISTORICAL MEAN LOAD (TONNES)	SUMMARY : JAN-DEC STANDARD ERROR OF MEAN %
1961	-----PCCCCCC	MANUAL	390 JUN 24	5 DEC 11	16 200 JUN 24	255 000	---	---	---
1962	CCCCCCCCCCCC	MANUAL	1 970 APR 16	10 JAN 22	139 000 APR 16	1 700 000	4 660	4 660	---
1963	CCCCCCCCCCCC	MANUAL	2 510 JUL 7 *	9 JAN 7	323 000 JUL 8 *	4 060 000 *	11 100	7 890	40.9
1964	CCCCCCCCCCCC	MANUAL	1 610 JUN 18	5 MAR 9	198 000 JUN 18	3 760 000	10 300	8 680	23.3
1965	CCCCCCCCCCCC	MANUAL	700 JUN 27	2 DEC 1 *	98 600 JUN 27	2 460 000	6 750	8 200	18.4
1966	CCCCCCCCCCCC	MANUAL	750 JUN 13	3 AUG 31	67 000 JUN 13	1 520 000	4 160	7 390	19.2
1967	CCCCCCCCCCCC	MANUAL	235 JUL 5	3 SEP 4	10 900 JUL 5	404 000	1 110	6 340	24.6
1968	CCCCCCCCCCCC	MANUAL	100 NOV 11	2 MAY 23	2 500 NOV 3	91 900	251	5 470	28.9
1969	CCCCCCCCCCCC	MANUAL	1 980 JUL 5	7 JAN 11	293 000 JUL 5	1 950 000	5 330	5 460	25.1
1970	CCCCCCCCCCCC	MANUAL	108 JUN 25	4 SEP 4	3 540 JUN 25	229 000	627	4 920	26.9
1971	CCCCCCCCCCCC	MANUAL	83 JUN 16	2 SEP 8	2 960 JUN 16	170 000	467	4 470	28.2
1975	-----P------	MANUAL	2 110 JUN 24	257 JUN 30	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SOUTH SASKATCHEWAN RIVER NEAR LEMSFORD - STATION NO. 05HB001

LOCATION: LAT 51 01 20 N LONG 109 07 30 W
DRAINAGE AREA: 119 000 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : JAN-DEC MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1961	------PCCCCC	MANUAL	500 AUG 2		6 DEC 15		7 600 AUG 5		179 000	---	---	---
1962	CCCCCCCCCCCC	MANUAL	2 880 JUL 17		10 MAR 4		63 000 JUL 17		1 640 000	4 500	4 500	---
1963	CCCCCCCCCCCC	MANUAL	4 340 JUL 4		5 NOV 21		630 000 JUL 4		4 430 000	12 100	8 320	45.9
1964	CCCCCCCCCCCC	MANUAL	5 360 JUN 13		2 DEC 29		824 000 JUN 13		6 990 000	19 100	11 900	35.4
1965	CCCCCCCCCCCC	MANUAL	3 310 JUN 22		1 JAN 11	*	529 000 JUN 22		8 820 000	24 200	15 000	28.5
1966	CCCCCCCCCCCC	MANUAL	4 910 JUL 8		6 JAN 3		325 000 JUL 8		4 740 000	13 000	14 600	22.9
1967	CCCCCCCCCCCC	MANUAL	5 100 JUN 4		5 DEC 7		1 080 000 JUN 4		11 400 000	* 31 300	17 400	22.4
1968	CCCCCCCCCCCC	MANUAL	3 730 JUL 28		5 JAN 11		98 400 JUN 15		2 410 000	6 590	15 900	23.0
1969	CCCCCCCCCCCC	MANUAL	7 220 APR 8	*	4 FEB 7		1 100 000 APR 8		9 570 000	26 200	17 100	19.9
1970	CCCCCCCCCCCC	MANUAL	5 180 JUN 19		5 FEB 13		752 000 JUN 19		5 110 000	14 000	16 800	18.0
1971	PPPPPPPPP-P-	MANUAL	2 720 APR 16		6 JAN 21		--- ---		---	---	---	---
1975	-----P------	MANUAL	5 800 JUN 24		2 960 JUN 26		--- ---		---	---	---	---

MANUAL - MANUAL SAMPLING
C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SOUTH SASKATCHEWAN RIVER NEAR OUTLOOK - STATION NO. 05HF001

LOCATION: LAT 51 28 25 N LONG 107 04 40 W
DRAINAGE AREA: 136 000 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAY-SEP MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1948	----PCCCCC--	MANUAL	1 970 MAY 31		50 SEP 10		462 000 MAY 30	*	7 630 000	---	---	---
1949	---CCCCCCP-	MANUAL	675 APR 9		60 MAY 20		26 900 APR 9		985 000	4 720	4 720	---
1950	---PCCCCCCP-	MANUAL	2 000 JUN 30		50 OCT 7		202 000 JUN 30		4 010 000	23 500	14 100	66.6
1951	---CCCCCCC--	MANUAL	2 940 APR 9		100 APR 1		287 000 APR 9		13 100 000	* 68 100	32 100	58.5
1952	---PCCCCCC--	MANUAL	2 500 JUN 30		60 OCT 7		350 000 JUN 30		5 360 000	25 000	30 300	44.2
1955	---PCCCCCC--	MANUAL	3 370 MAY 27		30 OCT 25		276 000 MAY 27		3 710 000	22 100	28 700	36.6
1956	---PCCCCCP--	MANUAL	2 290 APR 18		55 SEP 18		168 000 MAY 28		3 020 000	19 600	27 200	32.1
1957	---PCCCCCP--	MANUAL	2 600 SEP 18		40 JUL 30		81 000 MAY 13		1 760 000	11 300	24 900	30.9
1958	---PCCCCCP--	MANUAL	3 470 APR 11	*	34 AUG 25		292 000 APR 11		4 550 000	12 600	23 400	29.3
1959	---CCCCCC---	MANUAL	2 170 JUL 4		70 MAY 5		249 000 JUL 4		3 970 000	23 900	23 400	25.8
1960	----PCCC----	MANUAL	955 MAY 21		41 AUG 11		54 700 MAY 21		1 120 000	---	---	---
1961	---PCCPP----	MANUAL	1 600 JUN 5		7 APR 28	*	148 000 JUN 5		1 940 000	---	---	---

MANUAL - MANUAL SAMPLING
C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SPRUCE (LITTLE RED) RIVER NEAR PRINCE ALBERT - STATION NO. 05GG002

LOCATION: LAT 53 13 17 N LONG 105 43 15 W
DRAINAGE AREA: 1 670 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)		SAMPLED CONCENTRATION MINIMUM (MG/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1971	----P-------	MANUAL	12 MAY 10	*	12 MAY 10	*	--- ---		---	---	---	---

MANUAL - MANUAL SAMPLING
P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

STURGEON RIVER NEAR PRINCE ALBERT - STATION NO. 05GF002

LOCATION: LAT 53 12 47 N LONG 105 53 06 W
DRAINAGE AREA: 5 100 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1984	---PPP-P-P--	MANUAL	217 APR 6	16 MAY 2	--- ---	---	---	---	---
1985	---PP-PP-P--	MANUAL	625 APR 15 *	7 AUG 23 *	--- ---	---	---	---	---
1986	---PPPP-PPP-	MANUAL	297 APR 10	7 OCT 9	--- ---	---	---	---	---
1988	---P--------	MANUAL	487 APR 15	362 APR 15	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SWAN RIVER NEAR NORQUAY - STATION NO. 05LE008

LOCATION: LAT 51 59 52 N LONG 102 04 26 W
DRAINAGE AREA: 1 920 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1981	----PPPP--P-	MANUAL	66 NOV 3	14 JUN 30	--- ---	---	---	---	---
1982	---PPPP--P--	MANUAL	331 JUL 21	13 OCT 6	--- ---	---	---	---	---
1983	---PP-PPP-P-	MANUAL	341 APR 26	8 AUG 31 *	--- ---	---	---	---	---
1984	---PPP---P--	MANUAL	410 APR 10	20 OCT 11	--- ---	---	---	---	---
1985	---PPPPP-P--	MANUAL	541 APR 15	20 JUN 3	--- ---	---	---	---	---
1986	---P-PPP-P--	MANUAL	347 APR 9	21 AUG 12	--- ---	---	---	---	---
1987	---P--------	MANUAL	557 APR 7 *	396 APR 8	--- ---	---	---	---	---
1988	---PPP------	MANUAL	493 MAY 3	46 JUN 1	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SWEETWATER CREEK NEAR STAR CITY - STATION NO. 05KB012

LOCATION: LAT 52 50 30 N LONG 104 22 19 W
DRAINAGE AREA:
TYPE OF FLOW:
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1972	---P--------	MANUAL	51 APR 27	51 APR 27	--- ---	---	---	---	---
1976	---P--------	MANUAL	99 APR 6 *	3 APR 23 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SWIFT CURRENT CANAL AT SWIFT CURRENT - STATION NO. 05HD034

LOCATION: LAT 50 16 03 N LONG 107 46 43 W
DRAINAGE AREA:
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1972	--------PP--	MANUAL	8 SEP 5 *	6 OCT 3 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING
P - PARTIAL MONTH
* - EXTREME FOR PERIOD OF RECORD

SWIFT CURRENT CREEK AT SWIFT CURRENT - STATION NO. 05HD007

LOCATION: LAT 50 16 50 N LONG 107 46 40 W
DRAINAGE AREA: 3 280 km²
TYPE OF FLOW: REGULATED SINCE 1942
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1972	--------PP--	MANUAL	11 SEP 5 *	5 SEP 5 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING
P - PARTIAL MONTH
* - EXTREME FOR PERIOD OF RECORD

SWIFT CURRENT CREEK BELOW PELLETIER CREEK - STATION NO. 05HD030

LOCATION: LAT 50 09 53 N LONG 107 53 47 W
DRAINAGE AREA: 2 910 km²
TYPE OF FLOW: REGULATED SINCE 1942
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1972	---------P--	MANUAL	5 OCT 4 *	5 OCT 4 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING
P - PARTIAL MONTH
* - EXTREME FOR PERIOD OF RECORD

SWIFT CURRENT CREEK BELOW ROCK CREEK - STATION NO. 05HD036

LOCATION: LAT 49 50 39 N LONG 108 28 46 W
DRAINAGE AREA: 1 430 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1974	---PP-PPPP--	MANUAL	84 APR 10	10 MAY 7	--- ---	---	---	---	---
1975	----P-PPP---	MANUAL	57 MAY 29	2 AUG 11 *	--- ---	---	---	---	---
1976	--PPPPPP-PP-	MANUAL	184 MAR 21	6 OCT 5	--- ---	---	---	---	---
1977	--PPPPP-P-P-	MANUAL	24 APR 6	5 JUN 8	--- ---	---	---	---	---
1978	--PPPP----P-	MANUAL	230 MAR 31 *	4 JUN 28	--- ---	---	---	---	---
1979	---PPP------	MANUAL	56 APR 25	11 JUN 6	--- ---	---	---	---	---
1980	--PPPP------	MANUAL	73 MAY 8	2 JUN 10	--- ---	---	---	---	---
1981	-P----------	MANUAL	60 FEB 23	60 FEB 23	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING
P - PARTIAL MONTH
* - EXTREME FOR PERIOD OF RECORD

SWIFT CURRENT CREEK NEAR LEINAN - STATION NO. 05HD039

LOCATION: LAT 50 29 38 N LONG 107 39 31 W
DRAINAGE AREA: 3 730 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	SUMMARY : MAR-OCT HISTORICAL MEAN LOAD (TONNES)	SUMMARY : MAR-OCT STANDARD ERROR OF MEAN %
1973	--P-PPPPPP--	MANUAL	41 MAR 27	4 OCT 3	--- ---	---	---	---	---
1974	--PCPPP-PPP-		1 320 APR 15	7 JUN 20	3 740 APR 15 *	18 700 *	---	---	---
1975	---CCCCCCP--		1 160 APR 23	7 OCT 30	3 100 APR 23	13 400	---	---	---
1976	--PPPPPPPPP-	MANUAL	220 MAR 31	13 MAY 3	--- ---	---	---	---	---
1977	-PCCCCCCCP-		2 430 MAY 28 *	10 NOV 1	414 MAY 28	1 290	5.21	5.21	---
1978	--CCCCCCCC--		183 MAR 29	3 JUL 10	86.5 MAR 29	735	3.00	4.11	26.9
1979	--CCCCCCCC--		755 APR 19	5 JUL 12	1 810 APR 19	7 490	30.6	12.9	68.4
1980	--PPPPP-----	MANUAL	99 MAR 21	2 JUL 28 *	--- ---	---	---	---	---
1981	--PPPP------	MANUAL	16 MAR 25	1 JUN 22	--- ---	---	---	---	---
1982	---PPPP-----	MANUAL	689 APR 14	7 MAY 25	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SWIFT CURRENT CREEK NEAR THE MOUTH - STATION NO. 05HD037

LOCATION: LAT 50 36 06 N LONG 107 43 22 W
DRAINAGE AREA: 3 910 km²
TYPE OF FLOW: REGULATED SINCE 1942
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	SUMMARY : MAR-OCT HISTORICAL MEAN LOAD (TONNES)	SUMMARY : MAR-OCT STANDARD ERROR OF MEAN %
1965	---PCCCCCC-P	MANUAL	3 890 APR 12	3 SEP 10	10 800 APR 16	41 100	---	---	---
1966	P-CCCCCCCCPP	MANUAL	1 310 MAR 18	1 JUN 3 *	2 650 MAR 20	27 700	113	113	---
1967	PPCCCCCCCC--	MANUAL	4 480 APR 13	5 SEP 21	34 700 APR 14 *	153 000 *	623	368	69.3
1968	-PCCCCCCCPP	MANUAL	428 MAR 5	2 SEP 16	266 MAR 5	2 190	8.65	248	76.5
1969	-PCCCCCCCPP	MANUAL	3 150 APR 6	1 JUN 7	24 900 APR 6	84 900	346	273	50.0
1970	PPCCCCCCCCP-	MANUAL	9 550 APR 6 *	4 JAN 7	29 500 APR 7	104 000	426	303	36.3
1971	--CCCCCCCC--	MANUAL	4 340 APR 8	5 MAR 1	30 800 APR 8	96 000	392	318	28.6
1972	--CCCCCCCC--	MANUAL	458 APR 7	1 AUG 4	232 MAR 19	1 430	5.85	274	32.5
1973	--CCP-------	MANUAL	89 MAR 18	8 MAR 1	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WASCANA CREEK 1.2 KM ABOVE TREATMENT PLANT - STATION NO. 05JF901

LOCATION: LAT 50 28 37 N LONG 104 42 26 W
DRAINAGE AREA:
TYPE OF FLOW: REGULATED
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1989	--PP--------	MANUAL	107 MAR 27 *	24 MAR 24 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WASCANA CREEK BELOW KRONAU MARSH - STATION NO. 05JF012

LOCATION: LAT 50 21 07 N LONG 104 26 03 W
DRAINAGE AREA: 2 980 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1979	---PP-------	MANUAL	415 MAY 9 *	172 MAY 3	--- ---	---	---	---	---
1989	---P--------	MANUAL	6 APR 14	6 APR 14 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING
P - PARTIAL MONTH
* - EXTREME FOR PERIOD OF RECORD

WASCANA CREEK NEAR LUMSDEN - STATION NO. 05JF005

LOCATION: LAT 50 38 10 N LONG 104 54 35 W
DRAINAGE AREA: 4 610 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1969	---P--------	MANUAL	536 APR 16	464 APR 20	--- ---	---	---	---	---
1973	--PP--------	MANUAL	32 APR 4	20 MAR 23	--- ---	---	---	---	---
1974	---PPPPPPP--	MANUAL	794 APR 30	18 JUN 26	--- ---	---	---	---	---
1975	---PCPPP----	MANUAL	964 APR 23	13 AUG 13	4 080 APR 23	77 900	---	---	---
1976	--PCP-P-PP--	MANUAL	1 320 APR 12 *	17 SEP 16	9 470 APR 6 *	116 000 *	---	---	---
1977	---PPPPP-PP-	MANUAL	318 JUL 12	11 MAY 17	--- ---	---	---	---	---
1978	--PCPPPPPPP-	MANUAL	322 APR 5	11 JUN 21	348 APR 6	3 830	---	---	---
1979	---PCPPPPPP-	MANUAL	817 APR 24	10 NOV 2 *	3 550 APR 25	28 900	---	---	---
1980	---CPPPPPP--	MANUAL	454 APR 5	12 JUN 10	435 APR 5	3 940	---	---	---
1989	--PP--------	MANUAL	47 APR 3	15 MAR 29	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING
C - COMPLETE MONTH
P - PARTIAL MONTH
* - EXTREME FOR PERIOD OF RECORD

WASCANA CREEK NEAR RICHARDSON - STATION NO. 05JF009

LOCATION: LAT 50 23 51 N LONG 104 29 13 W
DRAINAGE AREA: 3 130 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : APR-JUL MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1962	CCCCCCCCCCC	MANUAL	230 APR 11	0 JAN 1 *	109 APR 11	584	27.8	27.8	---
1963	CCCCCCCCCCC	MANUAL	200 MAR 21	0 JAN 1	6.3 MAR 25	81.4	0.857	14.3	94.0
1964	---CCCCCCC--	MANUAL	715 JUL 6	0 APR 1	16.5 JUL 5	79.9	1.86	10.2	86.7
1965	---CCCCCC---	MANUAL	145 APR 12	0 APR 1	128 APR 12	472	5.82	9.09	69.7
1966	--CCCCCCC--	MANUAL	230 APR 6	0 MAR 1	190 MAR 31	1 740	30.2	13.3	48.6
1967	--CCCCCCC--	MANUAL	340 APR 21	0 MAR 1	436 APR 21	3 380	86.7	25.5	52.2
1968	--P---------	MANUAL	467 MAR 10	11 MAR 30	--- ---	---	---	---	---
1969	---CCCC-----	MANUAL	423 APR 24	0 APR 1	634 APR 14	7 670	145	42.5	47.9
1970	--CCCCCCC--	MANUAL	399 MAY 3	0 MAR 1	321 APR 9	4 770	83.8	47.7	38.6
1971	--CCCCCCC--	MANUAL	631 APR 11	0 MAR 1	3 940 APR 11	19 800	638	113	59.7
1972	--CCCCCCC--	MANUAL	467 MAR 24	0 MAR 1	118 MAR 24	571	9.71	103	59.6
1974	---CP-------	MANUAL	782 MAY 2 *	0 APR 1	4 280 APR 23 *	32 100 *	---	---	---
1975	---CC-------	MANUAL	764 MAY 6	0 APR 1	2 560 MAY 6	22 600	---	---	---
1976	---PP-------	MANUAL	662 APR 17	170 APR 2	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING
C - COMPLETE MONTH
P - PARTIAL MONTH
* - EXTREME FOR PERIOD OF RECORD

WATERHEN RIVER NEAR GOODSOIL - STATION NO. 06AF005

LOCATION: LAT 54 26 45 N LONG 109 13 21 W
DRAINAGE AREA: 7 760 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-OCT MEAN LOAD (TONNES)	SUMMARY : MAR-OCT HISTORICAL MEAN LOAD (TONNES)	SUMMARY : MAR-OCT STANDARD ERROR OF MEAN %
1979	--CCCCCCCCP-	MANUAL	7 JUL 2 *	1 MAR 1 *	16.0JUL 16 *	1 530 *	6.21	6.21	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WHITE FOX RIVER NEAR GARRICK - STATION NO. 05KE005

LOCATION: LAT 53 25 20 N LONG 104 20 30 W
DRAINAGE AREA: 1 870 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1972	---P--------	MANUAL	250 APR 26 *	202 APR 26 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WHITESAND RIVER NEAR CANORA - STATION NO. 05MB003

LOCATION: LAT 51 38 11 N LONG 102 22 11 W
DRAINAGE AREA: 8 740 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1979	---PP-------	MANUAL	67 APR 24 *	4 MAY 10 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WILLIAM RIVER ABOVE CARSWELL RIVER - STATION NO. 07MA004

LOCATION: LAT 58 48 50 N LONG 109 00 10 W
DRAINAGE AREA: 4 030 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1982	-------P-P--	MANUAL	4 OCT 6 *	2 AUG 25 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WIWA CREEK NEAR GRAVELBOURG - STATION NO. 05JC001

LOCATION: LAT 50 02 14 N LONG 106 32 58 W
DRAINAGE AREA: 1 560 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE:

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1972	---P--------	MANUAL	24 APR 10 *	24 APR 10 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WIWA CREEK NEAR ST. BOSWELLS - STATION NO. 05JC006

LOCATION: LAT 50 04 05 N LONG 106 45 18 W
DRAINAGE AREA: 1 360 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1985	--PP--------	MANUAL	55 MAR 14	16 MAR 27	--- ---	---	---	---	---
1986	--PP--P-----	MANUAL	157 MAR 1 *	4 JUL 2 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WOOD RIVER NEAR LAFLECHE - STATION NO. 05JA002

LOCATION: LAT 49 40 01 N LONG 106 41 33 W
DRAINAGE AREA: 4 730 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1984	--PP--------	MANUAL	69 MAR 28	21 APR 17	--- ---	---	---	---	---
1985	--PP--------	MANUAL	186 APR 4	25 APR 25	--- ---	---	---	---	---
1986	-PPP-PP-----	MANUAL	374 FEB 28 *	11 JUL 3	--- ---	---	---	---	---
1987	--PPPP--PP--	MANUAL	46 SEP 29	14 JUN 2	--- ---	---	---	---	---
1988	--PPP-------	MANUAL	72 APR 6	13 MAY 31	--- ---	---	---	---	---
1989	--PPPP------	MANUAL	134 MAR 27	6 MAY 31 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

YELLOW GRASS DITCH NEAR YELLOW GRASS - STATION NO. 05MB011

LOCATION: LAT 49 47 11 N LONG 104 02 16 W
DRAINAGE AREA: 1 900 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (MG/L)	SAMPLED CONCENTRATION MINIMUM (MG/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1974	--CCCP------	MANUAL	1 280 MAY 1	0 MAR 1 *	2 990 MAY 2 *	45 800	---	---	---
1975	--CCPPP-----	MANUAL	2 070 APR 21 *	0 MAR 1	1 910 MAY 3	27 900	---	---	---
1976	--CCPPPP----	MANUAL	1 320 MAY 4	0 MAR 1	2 820 APR 17	65 600 *	---	---	---
1977	---P--------	MANUAL	61 APR 13	54 APR 5	--- ---	---	---	---	---
1978	---P--P-----	MANUAL	968 JUL 5	115 APR 24	--- ---	---	---	---	---
1979	---PPPP-----	MANUAL	554 MAY 24	119 JUN 20	--- ---	---	---	---	---
1980	---P--------	MANUAL	329 APR 3	95 APR 8	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

NAME	STATION NO.	PAGE
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ASSINIBOINE RIVER AT KAMSACK	05MD004	1
BATTLE RIVER AT BATTLEFORD	05FF001	2
BEAVER RIVER NEAR DORINTOSH	06AD001	2
BIG GULLY CREEK NEAR MAIDSTONE	05EF005	2
BURNTOUT BROOK NEAR ARBORFIELD	05KB005	3
CARROT RIVER NEAR ARMLEY	05KB003	3
CARROT RIVER NEAR KINISTINO	05KA001	3
CARROT RIVER NEAR SMOKY BURN	05KC001	4
CONNELL CREEK NEAR CONNELL CREEK	05KC002	4
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DOGHIDE RIVER BELOW TISDALE	05KB009	5
DOGHIDE RIVER NEAR RUNCIMAN	05KB011	6
EAGLE CREEK NEAR ENVIRON	05GC006	6
EKAPO CREEK NEAR MARIEVAL	05JM010	6
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ETOMAMI RIVER NEAR BERTWELL	05LB002	7
FLOWING WELL WEST INFLOW NEAR FLOWING WELL	05JC007	7
FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY	11AC041	8
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GAP CREEK ABOVE JUNCTION RESERVOIR	05HA072	9
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JEWEL CREEK NEAR GOODWATER	05MB014	10
JUMPING DEER CREEK NEAR LIPTON	05JK004	10
LEATHER RIVER BELOW PRESBYTERIAN RIVER	05KB010	10
LEATHER RIVER NEAR STAR CITY	05KB006	11
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MCDONALD CREEK NEAR MCCORD	05JA003	12
MELFORT CREEK NEAR MELFORT	05KB001	12
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MOOSE JAW RIVER NEAR BURDICK	05JE006	13
MOOSE JAW RIVER NEAR ROULEAU	05JE004	13
MOOSE MOUNTAIN CREEK NEAR OXBOW	05ND004	13
MUDJATIK RIVER NEAR FORCIER LAKE	06BC001	14
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NORTH SASKATCHEWAN RIVER NEAR BORDEN	05GD001	15
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PHEASANT CREEK NEAR ABERNETHY	05JL005	15
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PRESBYTERIAN RIVER ABOVE LEATHER RIVER	05KB013	16
QU'APPELLE RIVER ABOVE BUFFALO POUND LAKE	05JG004	16
QU'APPELLE RIVER AT TANTALLON	05JM003	17
QU'APPELLE RIVER BELOW LOON CREEK	05JK007	17
QU'APPELLE RIVER NEAR EYEBROW LAKE	05JG901	17
QU'APPELLE RIVER NEAR LUMSDEN	05JF001	18
QU'APPELLE RIVER NEAR WELBY	05JM001	18
RED DEER RIVER NEAR ERWOOD	05LC001	18
SASKATCHEWAN RIVER ABOVE SIPANOK CHANNEL	05KD005	19
SASKATCHEWAN RIVER AT NIPAWIN	05KD001	19
SASKATCHEWAN RIVER BELOW CUMBERLAND HOUSE	05KB010	19
SASKATCHEWAN RIVER BELOW TOBIN LAKE	05KD003	20
SASKATCHEWAN RIVER OLD CHANNEL	05KB009	20
SHORT CREEK NEAR ROCHE PERCEE	05NB021	20
SOURIS RIVER NEAR GLEN EWEN	05ND001	21
SOURIS RIVER NEAR HALBRITE	05NB017	21
SOUTH SASKATCHEWAN RIVER AT SASKATOON	05HG001	21
SOUTH SASKATCHEWAN RIVER NEAR LEMSFORD	05HB001	22
SOUTH SASKATCHEWAN RIVER NEAR OUTLOOK	05HF001	22
SPRUCE (LITTLE RED) RIVER NEAR PRINCE ALBERT	05GG002	22
STURGEON RIVER NEAR PRINCE ALBERT	05GF002	23
SWAN RIVER NEAR NORQUAY	05LE008	23
SWEETWATER CREEK NEAR STAR CITY	05KB012	23
SWIFT CURRENT CANAL AT SWIFT CURRENT	05HD034	24
SWIFT CURRENT CREEK AT SWIFT CURRENT	05HD007	24
SWIFT CURRENT CREEK BELOW PELLETIER CREEK	05HD030	24
SWIFT CURRENT CREEK BELOW ROCK CREEK	05HD036	24
SWIFT CURRENT CREEK NEAR LEINAM	05HD039	24
SWIFT CURRENT CREEK NEAR THE MOUTH	05HD037	25
WASCANA CREEK 1.2 KM ABOVE TREATMENT PLANT	05JF901	25
WASCANA CREEK BELOW KRONAU MARSH	05JF012	26
WASCANA CREEK NEAR LUMSDEN	05JF005	26
WASCANA CREEK NEAR RICHARDSON	05JF009	26
WATERHEN RIVER NEAR GOODSOIL	06AF005	27
WHITE FOX RIVER NEAR GARRICK	05KE005	27
WHITESAND RIVER NEAR CANORA	05MB003	27
WILLIAM RIVER ABOVE CARSWELL RIVER	07MA004	27
WIWA CREEK NEAR GRAVELBOURG	05JC001	28
WIWA CREEK NEAR ST. BOSWELLS	05JC006	28
WOOD RIVER NEAR LAFLECHE	05JA002	28
YELLOW GRASS DITCH NEAR YELLOW GRASS	05NB011	29

STATION NO.	NAME	PAGE
	SASKATCHEWAN	
05EF005	BIG GULLY CREEK NEAR MAIDSTONE	2
05FF001	BATTLE RIVER AT BATTLEFORD	2
05GC006	EAGLE CREEK NEAR ENVIRON	6
05GD001	NORTH SASKATCHEWAN RIVER NEAR BORDEN	6
05GF002	STURGEON RIVER NEAR PRINCE ALBERT	15
05GG001	NORTH SASKATCHEWAN RIVER AT PRINCE ALBERT	23
05GG002	SPRUCE (LITTLE RED) RIVER NEAR PRINCE ALBERT	14
05HA072	GAP CREEK ABOVE JUNCTION RESERVOIR	22
05HB001	SOUTH SASKATCHEWAN RIVER NEAR LEMSFORD	6
05HD007	SWIFT CURRENT CREEK AT SWIFT CURRENT	23
05HD030	SWIFT CURRENT CREEK BELOW PELLETIER CREEK	24
05HD034	SWIFT CURRENT CANAL AT SWIFT CURRENT	24
05HD036	SWIFT CURRENT CREEK BELOW ROCK CREEK	24
05HD037	SWIFT CURRENT CREEK NEAR THE MOUTH	24
05HD039	SWIFT CURRENT CREEK NEAR LETNAN	25
05HF001	SOUTH SASKATCHEWAN RIVER NEAR OUTLOOK	25
05HG001	SOUTH SASKATCHEWAN RIVER AT SASKATOON	22
05JA002	WOOD RIVER NEAR LAFLECHE	21
05JA003	MCDONALD CREEK NEAR MCCORD	20
05JA004	PINTO CREEK NEAR WOODROW	12
05JC001	WIWA CREEK NEAR GRAVELBOURG	16
05JC006	WIWA CREEK NEAR ST. BOSWELLS	20
05JC007	FLOWING WELL WEST INFLOW NEAR FLOWING WELL	20
05JE001	MOOSE JAW RIVER ABOVE THUNDER CREEK	7
05JE004	MOOSE JAW RIVER NEAR ROULEAU	17
05JE006	MOOSE JAW RIVER NEAR BURDICK	15
05JF001	QU'APPELLE RIVER NEAR LUMSDEN	11
05JF005	WASCANA CREEK NEAR LUMSDEN	10
05JF009	WASCANA CREEK NEAR RICHARDSON	26
05JF011	COTTONWOOD CREEK NEAR LUMSDEN	26
05JF012	WASCANA CREEK BELOW KRONAU MARSH	4
05JF901	WASCANA CREEK 1.2 KM ABOVE TREATMENT PLANT	26
05JG004	QU'APPELLE RIVER ABOVE BUFFALO POUND LAKE	25
05JG006	ELBOW DIVERSION CANAL AT DROP STRUCTURE	16
05JG901	QU'APPELLE RIVER NEAR EYEBROW LAKE	7
05JK004	JUMPING DEER CREEK NEAR LIPTON	17
05JK007	QU'APPELLE RIVER BELOW LOON CREEK	10
05JL002	INDIANHEAD CREEK NEAR INDIAN HEAD	17
05JL005	PHEASANT CREEK NEAR ABERNETHY	9
05JM001	QU'APPELLE RIVER NEAR WELBY	15
05JM003	QU'APPELLE RIVER AT TANTALLON	18
05JM010	EXAPO CREEK NEAR MARIEVAL	17
05JM015	CUTARM CREEK NEAR SPY HILL	6
05KA001	CARROT RIVER NEAR KINISTINO	5
05KA009	GOOSEHUNTING CREEK NEAR BEATTY	3
05KB001	MELFORT CREEK NEAR MELFORT	9
05KB003	CARROT RIVER NEAR ARMLEY	12
05KB005	BURNTOUT BROOK NEAR ARBORFIELD	3
05KB006	LEATHER RIVER NEAR STAR CITY	3
05KB009	DOGHIDE RIVER BELOW TISDALE	11
05KB010	LEATHER RIVER BELOW PRESBYTERIAN RIVER	5
05KB011	DOGHIDE RIVER NEAR RUNCIMAN	10
05KB012	SWEETWATER CREEK NEAR STAR CITY	6
05KB013	PRESBYTERIAN RIVER ABOVE LEATHER RIVER	23
05KC001	CARROT RIVER NEAR SMOKY BURN	16
05KC002	CONNELL CREEK NEAR CONNELL CREEK	4
05KD001	SASKATCHEWAN RIVER AT NIPAWIN	4
05KD003	SASKATCHEWAN RIVER BELOW TOBIN LAKE	19
05KD005	SASKATCHEWAN RIVER ABOVE SIPANOK CHANNEL	20
05KE005	WHITE FOX RIVER NEAR GARRICK	19
05KH009	SASKATCHEWAN RIVER OLD CHANNEL	27
05KH010	SASKATCHEWAN RIVER BELOW CUMBERLAND HOUSE	20
05LB002	ETOMAMI RIVER NEAR BERTWELL	19
05LC001	RED DEER RIVER NEAR ERMOOD	7
05LD003	OVERFLOWING RIVER NEAR HUDSON BAY	18
05LE008	SWAN RIVER NEAR NORQUAY	25
05MB003	WHITESAND RIVER NEAR CANORA	25
05MD004	ASSINIBOINE RIVER AT KAMSACK	27
05NA003	LONG CREEK AT WESTERN CROSSING OF INTERNATIONAL BOUNDARY	1
05NA004	LONG CREEK NEAR MAXIM	11
05NB011	YELLOW GRASS DITCH NEAR YELLOW GRASS	11
05NB014	JEWEL CREEK NEAR GOODWATER	29
05NB017	SOURIS RIVER NEAR HALBRITE	10
05NB021	SHORT CREEK NEAR ROCHE PERCEE	21
05ND001	SOURIS RIVER NEAR GLEN EWEN	20
05ND004	MOOSE MOUNTAIN CREEK NEAR OXBOW	21
05NE001	PIPESTONE CREEK NEAR MOOSOMIN	13
05NF010	ANTLER RIVER NEAR WAUCHOPE	16
05NF013	GAINSBOROUGH CREEK NEAR STORTHOAKS	1
06AD001	BEAVER RIVER NEAR DORINTOSH	8
06AD011	ALCOTT CREEK ABOVE MEADOW LAKE	2
06AF005	WATERHEN RIVER NEAR GOODSOIL	27